

For appended comments and corrections to meeting transcript, see specific information following the text of the court reporter's transcript

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ENVIRONMENTAL SAMPLING PROJECT

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TASK FORCE MEETING

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Tuesday, April 25, 2000

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6:30 p.m.

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1 TASK FORCE MEMBERS

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3 Nabil Al-Hadithy

4 Edgar Bailey

5 Michael Bandrowski

6 Pam Sihvola

7 Amy Kyle

8 Sue Markland Day

9 Evelyn M. Fisher

10 Keith L. Matthews

11 David Miller

12 Klaus Berkner

13 Miriam Ng

14 Carl Schwab

15 Fran packard

16 Rod Warren

17 Chris Whipple

18 Carroll Williams

19 Pam Evans

20

21 ATTACHMENTS

22 1 List of Parents' Questions presented by

23 Patricia Pritikin

24 2 Letter to Mr. Bandrowski from Pamela Sihvola

25

PATRICIA CALLAHAN AND ASSOCIATES

1 MS. DOUGHERTY: Good evening. We'd like to
2 call the meeting to order. Thank you all for being
3 here tonight. We'd like to get our mikes adjusted
4 here, actually.

5 Welcome to the third meeting of the
6 Environmental Sampling Project Task Force, and we
7 thank you all for attending, and we appreciate your
8 valuable time, and we want to go through a couple of
9 housekeeping issues before we get started.

10 First and foremost, just to call your
11 attention to the ground rules we posted for the last
12 couple of meetings about how we're going to act
13 together, and you guys keep an eye on that.

14 And second thing, we have a few alternates
15 here tonight. A few regular members have been unable
16 to attend, so I'm going to start I think with Klaus
17 Berkner and have you who are sitting in for regular
18 members please introduce yourselves and say who you
19 represent and whose place you're taking. Okay.
20 Klaus?

21 MR. BERKNER: I'm Klaus Berkner representing
22 David McGraw tonight from the lab.

23 MS. DUFFY: There's one mike for every two
24 people.

25 MR. WARREN: I'm Rod Warren. I'm sitting in

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1 for Paul Lavelly, representing U.C. Berkeley interests.

2 MS. SIHVOLA: My name is Pamela Sihvola.

3 I'm here -- I am a resident in District VI. I wish

4 other community groups would have been included. I am

5 (unintelligible) also university property, but I'm

6 here as an alternate for Gene Bernardi.

7 MR. SCHWAB: I'm Carl Schwab, and I'm here on

8 behalf of the Department of Energy, and I am

9 substituting as an alternate for Richard Nolan.

10 MS. DOUGHERTY: A couple of comments. You

11 task force members, there should be one mike for every

12 two people. In order for our court reporter, Laura,

13 to be able to hear us all, she has asked that we

14 please try and slow down, because Pat and I are

15 slowing down too, and use the microphones when we

16 speak and make it possible for those in the audience

17 to hear as well.

18 MS. DUFFY: Couple of other --

19 MS. DOUGHERTY: Couple of other comments for

20 you. When we start --

21 MS. DUFFY: Wait.

22 MS. DOUGHERTY: Oh.

23 MS. DUFFY: Housekeeping, the bathroom is

24 back through that door on the right and down to the

25 basement and to your left.

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1 MS. DOUGHERTY: And we are going to have
2 Molly Berg. Molly's back here, and Molly will be our
3 time keeper tonight. So if you have filled out a blue
4 card for public comment, you'll be watching Molly.
5 She's going to give us the names of speakers in just a
6 few minutes, and she will be keeping time for you. So
7 we will have three minutes apiece, or do we have six?
8 Three?

9 MS. BERG: We have -- I have -- we have the
10 first speaker has six, and then the others have three.

11 MS. DOUGHERTY: First speaker has six minutes
12 and has requested such, and the other speakers all
13 have three minutes apiece. Molly will be keeping
14 time. You also have a timing light on your podium
15 that you can pay attention to if you're trying to see
16 where your time is as far as when it's red, it's over.
17 Okay. That's it.

18 Pat and I talked to all of you task force
19 members about a couple of issues this last six-week
20 period, and you had asked us to get concurrence from
21 all of you on these two issues, and the first one was
22 how to handle the public comment period, and your
23 response as a general rule was you like to see the
24 public comment period split and allow people to have
25 an opportunity to have something to say, to address

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1 the task force from the public before the meeting
2 starts, give those folks a chance to talk, and also
3 for those of you who like to comment on exactly what
4 took place in the meeting or want to get feedback back
5 to the members, you also have time.

6 So the way this has been split, per your
7 suggestion, is 20 minutes at the beginning for public
8 comment, 10 minutes at the end. So we're going to be
9 in a compromise situation from where we started out.

10 MS. DUFFY: There were also transcript
11 corrections made during the meeting. We're trying to
12 figure out a way to keep our meeting time focused on
13 issues. What we agreed to do, and everybody agreed
14 that we polled, that the transcript will be posted on
15 the web, and the task force will be given hard copies.
16 And on the web, there will be a qualifier before the
17 transcript that says, "For appended comments and
18 corrections of the meeting transcript, see specific
19 information following the text of the court reporter's
20 transcript."

21 Any task force member or public can call in
22 to put their corrections on the web by pressing on the
23 button that says feedback, and you type it right into
24 the web, or you can send a hard copy to the community
25 relations office. Terry Powell will put this on the

1 web.

2 MS. DOUGHERTY: Okay. And one last comment.
3 Some of you asked about copies of the article sampling
4 plan from America Public. There are, again, five
5 copies of the plan on deposit at the DOE library. So
6 if anybody has a question about that, there are five
7 full copies of the plan. Okay.

8 Who would like to start public comment
9 period?

10 MS. BERG: Patricia Pritikin.

11 MS. PRITIKIN: There's not any light on right
12 now. Now it's on. My name is Patricia Pritikin, a
13 resident of Berkeley. I've lived here for 15 years.
14 I am also a member of the (unintelligible) Health
15 Effect Subcommittee. As I was born and raised
16 (unintelligible) nuclear facility in Washington State.
17 I'm a member of the Lawrence Livermore Site Team.

18 I have worked for 14 years in issues
19 pertaining to environmental exposures. I also
20 represent about 30 parents who have asked me to come
21 to this meeting to present some questions which they
22 have and concerns with regard to the safety of taking
23 field trips to the Lawrence Hall of Science with
24 regard to the safety of the emissions of tritium with
25 regard to the safety of the operations of the

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1 accelerator and the emissions of neutrons on site. I
2 have these questions.

3 I've also been asked to direct these
4 questions to the person who I trust, citizens trust,
5 and who parents I've spoken with trust, and that's
6 Owen Hoffman, and I thank you very much for bringing
7 Owen Hoffman to this meeting tonight. He has gained
8 our trust through work he's done in Lawrence Livermore
9 Laboratory, on Nevada test site, and on the national
10 scene by telling us the facts like they are. He does
11 not distort, tells us the truth, and we trust him
12 implicitly. So thank you to the lab for hiring him
13 and bringing him here.

14 Here are my concerns, and I will read as many
15 as I can into the record before my time runs out.

16 First of all -- by the way, please bear in
17 mind these questions come from a group of parents that
18 are not all from me, but they're all put together in
19 one list.

20 Question 1: Exactly what does tritium do to
21 the body when it comes in contact with humans?

22 First of all, when we talk about infants,
23 children, or people with immune system problems, when
24 it's emitted from the stacks and when it is bound with
25 water, rain water, or with fog. Owen, I know you're

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1 trying to write this down. I'll give you a list later
2 because it's quite a bit, and I think this is going to
3 be on the website as well, and for anyone else I can
4 give you a copy.

5 MS. DOUGHERTY: Just clarify it will be
6 included with the transcripts.

7 MS. PRITIKIN: Question 2 -- and this has
8 taken about 10 hours of consultation on my part with
9 the citizens who I represented.

10 Do the leaves from the eucalypti and other
11 plants around Lawrence Hall of Science retain tritium?
12 What happens when kids walk around in the leaves, pick
13 them up or make necklaces out of the seed pods of
14 eucalypti, which is one of the favorite things my
15 children like to do?

16 Question 3: What about the safety of
17 Strawberry Canyon for hiking, et cetera?

18 Question 4: Tritium in the local water
19 supply and swimming pools, lakes, et cetera.

20 Question 5: Which way is the tritium
21 dispersed in the air? That is, which way does the
22 wind blow? Do the hills cause the tritium to disperse
23 in something of a hot spot, increased concentration
24 zone?

25 Question 6: Are there times of day or times

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1 of year when exposures are higher from the National
2 Tritium Labeling Facility?

3 Question 7: What happens to people who have
4 higher radiosensitivity, compromised immune systems,
5 pregnant women, and infants, that is, the more
6 vulnerable of groups, when exposed to these emissions?

7 Question 8: Why hasn't the Lawrence Hall of
8 Science put any information on these releases into
9 their brochures?

10 This is -- this next section pertains to past
11 releases. There's not just concern for current
12 releases.

13 Question 1: How do we know when and how much
14 tritium was released in past projects at the National
15 Tritium Labeling Facility from the time it started
16 operating?

17 Question 2: What effort is being made to
18 track people who may have been exposed to higher
19 releases in the past?

20 Question 3: Have any health surveys of those
21 exposed to significant releases of the past been
22 carried out?

23 Third section, the accelerator at the lab.
24 There's been some talk lately amongst the -- I have a
25 yellow light. What does that mean?

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1 MS. BERG: You have one minute.

2 MS. PRITIKIN: Of six? I have to finish this
3 list later, then. With that understanding, I want to
4 give you the last two questions. Actually, I don't
5 want to do that. I want to summarize why I'm here.

6 My parents trusted the operators of the lab
7 when they assured us all was safe. My parents trusted
8 those who detonated the nuclear test in Nevada. The
9 result is that my parents are both dead of aggressive
10 cancers, and I have severe thyroid disease. I no
11 longer trust reassurances of safety unless I actually
12 see the proof. I'll read the rest of the list at my
13 next period of time. Thanks.

14 MS. DOUGHERTY: Thank you. Molly?

15 MS. BERG: Robert Fox.

16 MR. FOX: Views I'm expressing tonight are my
17 own, not any organization. I have lived in Berkeley
18 for over 17 years. I've worked at the Lawrence Hall
19 of Science for three years. The last seven years I've
20 worked at the Berkeley laboratory.

21 I'm here in response to a charge that the
22 tritium facility is affecting pregnant women and
23 lessening the reproductive cycles of its employees.
24 I'm very happy to say I've been working at the lab and
25 a rubber band shot away from the NTLF facility.

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1 I've had a lovely daughter. My wife is
2 expecting again. I have a friend that works in the
3 same building as the NTLF. He's had two children
4 without any problems. Lest you consider that
5 chauvinistic, there's also a woman that works in the
6 same building that's had a lovely child. There's also
7 two other women that work in the same building, just a
8 stone's throw -- very same building as mine -- from
9 the NTLF facility that all have lovely children.

10 My last is a question to Mike Bandrowski --
11 I'm sorry if I mispronounce there -- in the minutes of
12 March 1st, there was a statement made by Ms. Bernardi
13 on page 81, line 14, and I'll read it for you.

14 Says, "The cancer screening level of EPA is
15 50 pico curies per cubic meter of air, and the lab in
16 its health risk assessment predicts releases of 100
17 curies per year of tritium tritiated water vapor.
18 That would be, depending on whether you're at the rear
19 of the Lawrence Hall of Science or the entrance, the
20 equivalent of 1,000 to 1,800 pico curies of tritium
21 per cubic meter of air."

22 I'm unclear on that statement. How you can
23 get a total release of 100 curies over the year and
24 not have any volume of air measure and all of a sudden
25 come up with a concentration? So I'm confused on

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1 that, on how that calculation was done. I'd also like
2 to say that I haven't been paid to be here. I won't
3 be driving my Mercedes home. I have a '84 Toyota with
4 170,000 miles on it. Thank you.

5 MS. BERG: Robert Clear.

6 MR. CLEAR: Robert Clear, citizen of
7 Berkeley. I wanted to urge this task force to focus
8 its efforts on monitoring of types other than that
9 required by EPA calculation of hazardous screening
10 value.

11 Initially, the EPA found LBNL exceeded the
12 HRS estimated screening levels based on preliminary
13 analysis of tritium concentrations in the air. They
14 now wish to do further monitoring -- total waste of
15 time for this task force to be involved in EPA. I
16 reviewed the HRS calculations. The calculation is
17 extremely non-linear.

18 If tritium air concentrations exceed the
19 background level, LBL will fail the HRS screening
20 test. As current levels appear to be 50 or more times
21 the likely background levels, seems to be little point
22 in refining the measurement procedures to get more
23 exact values. More to the point, the EPA is unlikely
24 to designate LBL a Superfund site despite its HRS
25 score.

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1 The HRS procedure is only a screening
2 procedure. An inevitable consequence of making a
3 screening procedure sensitive enough to catch all
4 sites, that test also catches sites which are not
5 dangerous. The screening procedure is there to
6 identify sites for review.

7 The Superfund branch of EPA then has to
8 determine that a site is actually hazardous before it
9 gets listed. Well, LBNL tritium emissions have
10 already been determined to be non-hazardous by EPA
11 under its NESHAP regulations. In fact, estimated
12 doses are a fact of 50 or more under the NESHAP limit,
13 so it's unlikely that any further testing is going to
14 make any difference here, either.

15 In short, it is unlikely that any further
16 testing for EPA is going to make any difference in the
17 manner in which LBNL is regulated. This is not a good
18 use of your time. I strongly suggest that the task
19 force focus on monitoring that does have possibility
20 of making a difference. The most important issue is
21 personal safety.

22 I suggest urinalysis, which I think someone
23 else already mentioned, be a major portion of the
24 monitoring effort. Urinalysis is a direct measure of
25 the actual human exposure level. Monitoring of air,

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1 water, and soil doesn't really tell you what the
2 actual exposures are -- urinalysis does.

3 The community has also voiced a concern over
4 contamination of the environment. EPA does not
5 require measurements of tritium levels in vegetation,
6 and therefore, I suggest that this be part of any
7 monitoring program. Monitoring of vegetation, or any
8 other part of the environment needs to be done with
9 sufficient time resolution so that compartment
10 half-lives can be calculated. This will allow the
11 determination of potential contamination levels.

12 One final comment. The community obviously
13 does not trust LBNL or the regulators. Monitoring,
14 therefore, must be on a continuing basis so that there
15 could be no question of scheduling releases when no
16 one is looking, and there must be safeguards in place
17 so that the community can trust the actual
18 measurements. Thank you.

19 MS. DOUGHERTY: Thank you.

20 MS. BERG: Gordon Wozniak.

21 MR. WOZNIAK: My name is Gordon Wozniak. I'm
22 a long-time citizen of Berkeley. I was a member of
23 Parks and Rec Commission for a couple of years. When
24 I first joined that, I found that it didn't have a
25 budget and was responsible for coming up with a rough

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1 draft Measure A and getting passed in the community.

2 More recently in the last sort of year and a
3 half, I've been a member of the City's Community
4 Environmental Advisory Commission. Currently I'm
5 vice-chair. I'm also a scientist and work -- I've
6 worked at the Berkeley lab and (unintelligible) the
7 last 30 years, and I have some feel for what is
8 harmful and what is not harmful, and many of you --
9 some of you have technical background and know these
10 things, and others you may not, but let me try to give
11 you a little perspective as I see the problem, and
12 it's a complicated problem.

13 Radiation, first of all, you should realize
14 is a power word. It conjures up great fear. I mean,
15 why do we have in the movies things like the Hulk and
16 Godzilla and Spider Man? They're all created by
17 radiation.

18 It's a power word, very scary word, and some
19 people are very adept at using it to scare people, but
20 there's also a lot known about radiation and its
21 health effects. Radiation at high levels is
22 certainly, as we know from exposures at Hiroshima and
23 Nagasaki, but we also in radiation fields there's a
24 natural background radiation everybody is exposed to.
25 It's been here for as long as the earth has been here,

1 evolved in these radiation fields, and our body life
2 has evolved mechanisms for dealing with it, repair
3 mechanisms that fix DNA when there is some radiation.

4 Clearly high levels you can overwhelm the
5 repair mechanism and cause cancer, but just to give
6 you a feel, about 40,000 people at Hiroshima and
7 Nagasaki were exposed to high levels of radiation that
8 didn't die, and only about 400 people came down with
9 excess cancer. So radiation is dangerous, but it
10 doesn't -- you know, low levels, it's very hard to
11 actually detect the effect of radiation because it
12 actually is a weak cancer causing agent.

13 So what is my advice for you in this task? I
14 would divide the problem in three parts. First, are
15 the current levels of emissions from the tritium
16 facility dangerous?

17 Second, is the past -- are the past levels,
18 which were higher, were they dangerous? Divide the
19 problem into acceptable things that may be able to
20 solve one if not the other.

21 And third is the contamination, if there is
22 any, to the environment significant, and does it, you
23 know, does it -- is there any potential harm to the
24 community?

25 Lastly, just give -- you people mention that

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1 there are large amounts of radiation emitted, numbers
2 of 30 more, but there's a tremendous dilution factor.

3 MS. DOUGHERTY: Thank you.

4 MS. BERG: Philip Williams.

5 MR. WILLIAMS: Good evening. My name is
6 Philip Williams. I'm a resident of Oakland, and I'm
7 the facility manager for the National Tritium Labeling
8 Facility. I'm here this evening to make a couple of
9 comments and just ask a couple of questions on my own
10 behalf. I think they're directly relevant to the
11 discussions that are going to go on with this group.

12 So first of all, I'll make the point that the
13 National Tritium Labeling Facility has a permit to
14 operate and is regulated to release no more than a
15 certain amount of radioactivity in its operations.
16 This is like a license, if you like, and that license
17 is regulated and run by the Environmental Protection
18 Agency.

19 Similarly, I drive a motor vehicle, and that
20 motor vehicle is a polluter and is regulated at a
21 certain level, and those levels, both radioactivity
22 and for my smog test, are set at certain levels by
23 consensus, the, if you like, discussion in the
24 scientific community and public, and set by
25 regulation.

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1 So my automobile has recently been smogged
2 and passed. It's a damn site closer to the smog limit
3 than the tritium emissions are to the NESHAP limit.
4 Nevertheless, it's under the smog limit. So I'm
5 allowed to drive it. So are millions of Californians.
6 The question I want to ask is that's one set of
7 circumstances where we have a permit or a license to
8 operate an activity which pollutes and affects the
9 environment and people around us.

10 The second situation is that the tritium
11 facility was subject to the Superfund criteria, which
12 is slightly different, and elevated is this whole
13 issue that you're discussing here. So if you like, we
14 have a license to operate, but we treat it and another
15 set of regulations, which suggest that there might be
16 some danger, and what we're doing -- the question I'd
17 like to ask is since all cars have a permit to operate
18 and pollute, is there any possibility that EPA might
19 also subject them to Superfund emissions regulations,
20 and if so, when can we expect that to happen in
21 California? Thank you.

22 MS. DOUGHERTY: Thank you.

23 MS. DUFFY: Thank you. I have a question.
24 Is Grant with us?

25 MS. BERG: He is.

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1 MS. DOUGHERTY: We'd like to introduce a few
2 people tonight who are going to be on your agenda.
3 Pat wants me to talk about why we're here, which I
4 think is a really good idea. We want to pick up from
5 where we left off at your last meeting. Most of you
6 are aware where we left off is at the middle of the
7 presentation by Environmental Protection Agency, and
8 particularly by Phil Armstrong, who I so rudely cut
9 off so we could get through the process. So Phil has
10 kindly agreed to be back with us tonight and will be
11 speaking in a few minutes. So we're going to be
12 picked up with our examination from the EPA's
13 perspective of the environmental sampling plan, how we
14 got here.

15 We're going to also hear tonight from a few
16 other people. We're going to hear from Carl Schwab,
17 and he's going to talk a little bit -- a few minutes
18 about the Department of Energy's perspective. We're
19 going to be welcoming Bernd Franke. Bernd, are you
20 there?

21 MR. FRANKE: Yes, I'm here.

22 MS. DOUGHERTY: I'm sorry. We're happy Bernd
23 Franke is joining us from Germany on the telephone.
24 So we welcome you from afar.

25 MR. FRANKE: I'm glad I can make it.

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1 MS. DUFFY: Bernd, you need to interrupt us
2 if we're talking about a visual if you don't have them
3 in front of you. So just speak up, okay?

4 MR. FRANKE: Okay.

5 MS. DOUGHERTY: Also, we're going to have --
6 Dr. Owen Hoffman is also here. I should mention for a
7 moment Bernd is hired by the City of Berkeley as their
8 practical consultant on the issues relating to
9 sampling plan. LBNL technical consultant is Dr. Owen
10 Hoffman, who is here on my left. This is Owen. He'll
11 be, along with Bernd, chiming in when things need to
12 be said here in this conversation. We'll also be
13 hearing from Phil, as I mentioned earlier, from the
14 EPA, who will be continuing this conversation. And we
15 will be hearing a presentation from Ron Howard and
16 Iraj Javandel, and they will be talking specifically
17 about the testing and showing you some maps and where
18 sampling is considered, and we'll be getting into the
19 meat of the process here.

20 So welcome to all of you, and with that, I
21 think we should probably get started. Carl, do you
22 mind starting for us?

23 MR. SCHWAB: If you like.

24 MS. DOUGHERTY: So Carl Schwab, Department of
25 Energy, will speak for a few minutes, and then we'll

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1 go on. Thanks.

2 MR. SCHWAB: If nobody objects, I'll just
3 speak right from here.

4 MS. DOUGHERTY: Just, again, to remind you
5 task force members, please for the sake of Laura,
6 please speak directly into the microphone. Thank you.

7 MR. SCHWAB: Okay. I'm Carl Schwab from the
8 Department of Energy, and I'd just like to briefly say
9 a few things as far as what our perspective is on what
10 we like to see come of the efforts of this group, and
11 I guess, you know, really two things that I want to
12 mention.

13 First is EPA has asked us to look at the
14 emissions of tritium from the National Tritium
15 Labeling Facility in order for them to complete their
16 Superfund evaluation, and so we would like to assure,
17 you know, ourselves that we're going to give EPA the
18 kinds of information they need, the samples and the
19 quality assurance that will help them to make --
20 finish their evolution.

21 And secondly, we also are interested in
22 getting input from all the community members here, and
23 the task of this group is to review the sampling plan,
24 draft of the sampling plan that the lab has here and
25 decide whether there's more samples needed or

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1 different samples or whatever the comments might be.
2 We're interested in getting that input, and we want
3 the group to be able to look over our shoulders and
4 watch the samples being taken and tell us that we're
5 doing it properly or not.

6 And then last we want the group to look at
7 the results that come out of the sampling and evaluate
8 what the reports say and provide comments as to
9 whether it all satisfies or makes sense to the
10 community, and then, as you know, kind of a benefit in
11 addition to all that is that we see this task force as
12 a mechanism for the lab and the Department of Energy
13 to improve our relationships with community members
14 and try to be more responsive inasmuch as issues come
15 up, and we need to respond and address public
16 concerns.

17 MS. SIHVOLA: I have a question for Carl, and
18 my question is is the Department of Energy or LBNL
19 looking for a group recommendation? Are you looking
20 for a document that will come out of this group
21 regarding the sampling plan, and in what form are you
22 expecting it?

23 MR. SCHWAB: Well, from my perspective, it's
24 -- to me it seems to be up to the group as to how they
25 want to provide input to the Department of Energy and

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1 the lab. If you want to put it in the form of some
2 kind of a report or comment, that would seem to me to
3 be the best way for us to be sure we can address, you
4 know, your concerns. But if it's in some other form
5 that you feel is better, I mean, I don't have a strong
6 feeling that we wouldn't accept that. We'll listen to
7 whatever input you have.

8 MS. DOUGHERTY: Mike and then Klaus.

9 MR. BANDROWSKI: One point I wanted to make.
10 I support what Carl had to say, and for those who are
11 relatively new to this process, when the previous
12 tritium issues work group was moving through the
13 number of months and years it was involved, one of the
14 things that EPA wanted to do was try to incorporate
15 the concerns that the citizens had expressed in the
16 tritium issues work group regarding sampling by
17 incorporating that into the Superfund sampling fund.

18 There's a certain number of samples that are
19 required for Superfund to complete their assessment,
20 but there was also a lot of concerns that the citizens
21 had raised about vegetation sampling and additional
22 air monitors. So EPA felt that putting those two sets
23 of issues together into one sampling plan would be
24 helpful.

25 So one of the things that this group here can

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1 continue to do is look at the sampling plan that
2 exists, make sure it meets the Superfund needs, but
3 also make sure it meets the needs of community members
4 and others who are concerned about different release
5 points and such at the Lawrence Hall of Science -- I
6 mean at the Lawrence Berkeley Lab.

7 MS. DOUGHERTY: I think we have Klaus. You
8 were going to respond to --

9 MR. BERKNER: Klaus Berkner. We want to
10 have the community understand what the -- our
11 environment is, be satisfied that the monitoring that
12 we do is adequate and that there's no health risk.
13 That's why we wanted the forum to make sure this is
14 not just done in selecting a plan that is ours or
15 selecting a plan that only the EPA looks at, but
16 before we get started, we would like to have the input
17 again to support what Carl said, the form of the
18 input.

19 I think this group can decide. We don't
20 require a written document. We would like to get some
21 sense of the community in terms of is it time to go
22 ahead, and do we have an adequate number of types of
23 measurements and places of measurements to be made.

24 MS. DUFFY: Is this something different? Can
25 we let him --

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1 MS. SIHVOLA: Yes, I just wanted to respond
2 again. Are you looking for -- you are looking for the
3 group to review the sampling plan. Are you looking
4 for the group to address the Superfund related issues
5 separately from the other community concerns that were
6 expressed at the tritium issues work group? And I'm
7 basically -- again, I'm repeating, in what specific
8 form if we were to address the Superfund related
9 issues? I am sure that it has to be a written report.
10 So --

11 MS. DOUGHERTY: I can help you with that,
12 Pamela, just because I think it's been addressed
13 earlier, and you may not have heard it. What we
14 understand at least -- and please correct me, any of
15 you -- all of you that may know better.

16 We understand that the purpose of keeping the
17 transcripts is to capture all comment, including all
18 comment from the community because our understanding
19 was that the requirement or the request from the
20 Environmental Protection Agency is for further and
21 additional community input, and that requires that all
22 members of the community be heard, and that those
23 transcriptions do record their answers.

24 There is not a need for consensus. This
25 group is not put together to create a consensus

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1 decision about what should be done, but rather to make
2 sure that all voices representing a variety of
3 perspectives get heard by the EPA in their decision
4 making process. Did I get that right? Carroll.
5 Sorry.

6 MS. DUFFY: Go ahead.

7 MR. WILLIAMS: It is my understanding that we
8 were formed to re-address the issues relating to
9 Superfund site, that that was the specific triggering
10 point for the establishment of this group. In
11 addition to that, however, it would seem to me that as
12 a citizen of Berkeley, that I would expect to have an
13 ongoing sampling process that would examine or the
14 number of days the facility is operating, and then on
15 some random basis take air samples or soil samples or
16 whatever, but on a continuing basis, and that way it
17 seems to me that we would pick up -- possibly pick up
18 accidents where there may be acute problems,
19 accidental emission, but we would also more reliably
20 pick up chronic problems.

21 And so I would hope that this is not just a
22 one-shot project to address the Superfund facility,
23 but that it would be an ongoing sampling process, much
24 like the gentleman mentioned for automobiles in terms
25 of smog tests, that we would be looking at this on a

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1 -- not just a periodic basis, but an ongoing basis.

2 MS. DUFFY: I think Ron had something.

3 MR. POWER: I just wanted to mention that
4 there is an ongoing sampling program here at the
5 laboratory, and I've got an overhead that will show
6 you very briefly what that is. And then on top of
7 that, we're proposing to do additional sampling to
8 satisfy EPA concerns under the Superfund guidance and
9 to satisfy some community concerns. So I'll show you
10 what that is when my turn comes.

11 MS. DOUGHERTY: Does that answer --

12 MS. FISHER: I report back to
13 Campus/Parnassus Neighborhood Association because
14 their properties abut the area of concern, and the
15 question that they had or two-part question was the
16 sampling plan looked very good, but they wanted to
17 know is it going to be administered when the facility
18 is at normal use? Could it be also sampled when it's
19 at full capacity so we can see what the variability
20 could be because of differences of the source, and
21 also, secondly, is what is the risk involved in
22 accidents, earthquakes, human error, or equipment
23 malfunctioning?

24 MS. DOUGHERTY: One second. If we're going
25 to get the conversation going, Phil, do you mind

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1 coming here, up here, and then maybe what we'll do is
2 for you guys, because you have so many questions, you
3 guys address your questions. We can let Phil start in
4 his presentation, and Ron and Iraj can also come up
5 here, and you guys can shoot questions at them. So
6 you've got a couple of -- so Iraj, would you mind
7 coming out?

8 Mr. Phil Armstrong, Environmental Protection
9 Agency, Iraj Javandel of LBNL, and this is Ron Power,
10 also of LBNL.

11 MR. ARMSTRONG: Can I use the overhead?

12 MS. DOUGHERTY: You bet.

13 MS. DUFFY: We're moving people around,
14 Bernd, just so you know.

15 MR. FRANKE: Okay.

16 MS. DOUGHERTY: And, Bernd, for you and Owen,
17 and please pipe in if you feel something that needs to
18 be said isn't being said. Can you guys see in the
19 back?

20 FROM THE FLOOR: Yes. Yes.

21 MR. ARMSTRONG: I'm Phil Armstrong, and this
22 is I believe about the point where we left off last
23 time is I was explaining what EPA's findings were in
24 the evaluation report that they issued in July of
25 1998, and basically we had determined, based on the

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1 available data, that LBNL was eligible to be placed on
2 the NPL and that the data that we had at that time
3 were incomplete, and the data also did not meet EPA's
4 data quality requirements for placing the site on the
5 National Priorities List.

6 Additional data would be needed before that
7 final decision could be made of whether or not the
8 site should be placed on the National Priorities List.
9 So more data was needed, particularly to confirm the
10 air emissions, and then additional data were also
11 requested, again, to have a complete picture and to
12 meet the Superfund data quality requirements.

13 MS. DOUGHERTY: Phil, are you okay with them
14 interrupting as you go? Okay. If they have
15 questions.

16 MR. ARMSTRONG: That's fine.

17 MS. DUFFY: Just one more slide, and then
18 we'll open up questions.

19 MR. ARMSTRONG: Okay. So as a follow-up to
20 that evaluation, EPA asked the Department of Energy to
21 take additional samples for background here. There
22 have not been any background air samples taken as part
23 of DOE's environmental monitoring program. Also
24 additional on-site air samples, including off-site air
25 samples as well, soil samples, surface water, sediment

1 samples, including samples at the outfall to San
2 Francisco Bay.

3 Once this additional information would be
4 collected, then we make a final decision about whether
5 to place LBNL on the National Priorities List. So
6 that concluded my prepared presentation.

7 Terry Powell, when I spoke to her today, also
8 asked me if I could elaborate upon the answer to one
9 of the questions, which was what exactly is an HRS
10 screening level, and you have a handout which I
11 brought that goes into more detail about that.
12 Basically --

13 MS. DUFFY: Hold it up so they know which one
14 it is. It looks like this. I'm grabbing. I'm sorry.

15 MR. ARMSTRONG: And basically --

16 MS. DUFFY: Did people find it? It's the
17 half page that says, "What is the HRS screening
18 level?" at the top.

19 MR. ARMSTRONG: There's been a lot of
20 discussion about the screening level because basically
21 this screening level kind of jumps out at people as
22 far as indicating that there might be a risk and also
23 makes a large contribution to the HRS consideration of
24 LBNL, and basically when we take a sample and we
25 detect a hazardous substance, such as tritium, in the

1 sample, then we compare the concentration in the
2 sample to a series of bench marks, which include the
3 NESHAPs standard, which has been talked about, and
4 also they include the screening level, and then under
5 the HRS we have to use whatever the lowest -- that is,
6 the most conservative -- level is on health based
7 bench mark, and then if the concentration on the
8 sample exceeds the bench mark, then we give additional
9 consideration to the population affected by that
10 sample.

11 Then the way the screening level is safe,
12 it's set to be so protective that if you are below
13 that screening level, then you can be confident that
14 the level is safe. On the other hand, if you're above
15 the screening level, that by itself does not mean that
16 the level is unsafe. What it means that is that you
17 then have to do additional work in order to determine
18 if there is a significant health risk, and that as far
19 as the screening level that we're talking about
20 concludes the screening level for tritium and ambient
21 air, that screening level corresponds to a one million
22 individual cancer risk for a hypothetical person who
23 breathes that level of tritium every day for a 70-year
24 lifetime, and then if a person is -- they spend less
25 time than that in proximity to that site breathing

1 that level of the tritium, then their risk would be
2 lower. And the example is a million people breathing
3 that level of cancer every day for a lifetime, that
4 suspicion is that one additional person would get --
5 develop cancer who otherwise would not have, and then
6 putting that --

7 MS. DOUGHERTY: Can you stop for one second,
8 Phil? Say that again. And Carroll has a question for
9 you. Carroll, did you want to ask your question?

10 MR. WILLIAMS: Well, I'm confused by what
11 seems to be two sets of standards that the EPA has.
12 One set of standards would allow -- excuse me. One
13 set of standards would allow the facility to be placed
14 upon your National Priorities List, and the other set
15 of standards, as I understand what the record is so
16 far, allows you to very clearly pass the Clean Air
17 Act, and so one can be alarming, and one set can be
18 reassuring. So why are there two sets of standards?
19 And is there -- I mean, you know, why feed into this
20 confusion about what is a safe level?

21 MR. ARMSTRONG: Let me clarify that we don't
22 have two sets of standards. There's one standard,
23 which -- or that I'm aware of, which is the NESHAP
24 standard, and that's the public health standard. Then
25 on the other hand, you have for Superfund has a

1 ranking system purposes we have what are called health
2 based bench marks, and those bench marks include both
3 the public health standards set by NESHAP, and they
4 also include a hazard ranking system screening
5 concentration for, again, for tritium and ambient air.

6 So the screening level for tritium in the air
7 is not to be confused with the standard. What it is
8 is a screening level and then -- and set at a very
9 conservative level so that you know if you're below
10 that level, then there's no risk. Basically then you
11 don't have to be concerned about a level of risk.

12 But being above that standard, on the other
13 hand, doesn't mean that you necessarily have a
14 significant risk. It just means that further study
15 perhaps should be conducted to determine whether there
16 is indeed a risk

17 MR. WILLIAMS: So that's where we are now?

18 MR. ARMSTRONG: Ummm, well --

19 MR. WILLIAMS: Further study.

20 MR. ARMSTRONG: Yes, this is a further study,
21 and my understanding is that this -- the data from
22 this study will both be used for the Superfund
23 determination and will also be used as an input for
24 the health risk assessment that had been -- previously
25 been done. So, yes, that would be included in

1 photostatic --

2 MS. DUFFY: Now we have a lot of furrowed
3 brows, and we have people right here I notice. So go
4 ahead.

5 MR. WARREN: It was my understanding that the
6 10-m standard was decided on the basis of no risk. If
7 you were below that, there was no safety problem. Is
8 that correct?

9 MR. ARMSTRONG: And I defer that question to
10 Mike Bandrowski, since that's a program --

11 MR. BANDROWSKI: The 10 millirem is zero
12 risk. There's certainly risk after 10 millirem, just
13 like any exposure to radiation or any chemical is
14 going to entail some risk. The difference between the
15 NESHAP standard I think and the cancer screening level
16 under Superfund is the NESHAP standard is a public
17 health standard set through a rule making process with
18 public input under the Clean Air Act, a fairly
19 elaborate time intensive process where looking
20 specifically at radionuclide risks and tritium and the
21 types of exposures that come from NESHAP regulated
22 facility, such as DOE facilities, set at 10 millirem a
23 year.

24 The cancer screening level is simply that.
25 It's a screening level associated with a risk of one

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1 in a million, and it's not just for tritium. It's for
2 any chemical that's going to be evaluated under the
3 HRS scoring system. They would pick a level of
4 contamination or a level of exposure that was
5 equivalent to one in a million.

6 Now, just to put in perspective the
7 difference between the risks from the two types of
8 levels, the cancer screening level is a risk of one in
9 a million. The 10 millirem standard for tritium is
10 approximately a risk of three times ten to the minus
11 four.

12 So part of the difference between the two is
13 that when the public comment period and the rule
14 making process took into account all of the issues
15 associated with the Clean Air Act, the level that was
16 set as a safety level, three times ten to the minus
17 four, 10 millirem for tritium releases.

18 MS. DUFFY: Wait. We have Chris next, I
19 think, and then back to you.

20 MR. WHIPPLE: Phil, I'm trying to figure out
21 what the relevance is for the decision making of ten
22 minus six screening level, but because I translate
23 into radiation nodes, it's really a pretty small dose.
24 If you determine that the air exposures from the lab
25 exceed that screening level, that simply means you

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1 then need to gather more information; is that correct?

2 And isn't that the process we're in now?

3 MR. ARMSTRONG: Process now is to gather more
4 information. That information would then be used in
5 the event that the decision is to, well, be used
6 basically to confirm the earlier decision, and then if
7 the decision is to place the site on the NPL, then we
8 would need that data to do a rule making process to do
9 that.

10 MR. WHIPPLE: Is there a risk or dose
11 criterion associated with the decision to put the site
12 on the NPL other than the ten to the minus six
13 screening level or 10 millirem a year NESHAP level?

14 MR. ARMSTRONG: Again, on the ten to the
15 minus sixth level, screening level, is as we said a
16 screening level. So that is used in the hazard
17 ranking system calculation to determine if the site is
18 eligible to be placed on the NPL. Then the NESHAPs
19 level is a public health standard. So that level
20 would be used to determine whether any action is
21 actually needed, and that would be part of the
22 decision of whether once the site is eligible, a
23 second decision would be made then to put the site on
24 the NPL.

25 In other words, you can't make a decision to

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1 put a site on the NPL unless its eligible. If it's
2 eligible, that doesn't necessarily mean that you're
3 going to place it on the NPL.

4 MR. WHIPPLE: Can I try one more time? Does
5 EPA have a numerical criterion for deciding what goes
6 on the NPL and what doesn't go on the NPL?

7 MR. ARMSTRONG: So you mean after we've
8 decided that it's eligible, do we have --

9 MR. WHIPPLE: Right.

10 MR. ARMSTRONG: That would be a management
11 decision based on a lot of different factors, such as
12 what the appropriate clean-up might be for the site or
13 what the appropriate remedial action would be.

14 MR. WHIPPLE: Okay.

15 MS. DOUGHERTY: Then I've got like three or
16 four people. I've got Klaus Berkner, Owen, Pamela,
17 and Amy.

18 MR. FRANKE: I have a question, too.

19 MS. DUFFY: That's Bernd.

20 MS. DOUGHERTY: Bernd, I'm sorry. There's a
21 voice from the sky.

22 MR. FRANKE: I cannot raise my hand.

23 MS. DOUGHERTY: Would you like to say
24 something right now?

25 MR. FRANKE: I have a couple of questions. I

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1 can wait until everybody else talks.

2 MS. DOUGHERTY: We won't forget you. Thank
3 you for checking in. So it goes Klaus Berkner next,
4 Owen, Pamela, Amy.

5 MR. BERKNER: On the screening level, you're
6 saying that that's the exposure, the 70-year exposure
7 basis. So as you do screening, how do you handle
8 occasional excursions screening based on if you do a
9 series of measurements, that some trip the threshold,
10 you go or do you really do a --

11 MR. ARMSTRONG: We take basically the highest
12 sample, and then we consider everyone who is --
13 explain a little bit more. With the HRS, we use
14 certain distances from the source, and then we take
15 samples within these concentric distance rings, and we
16 take the highest sample and the furthest out distance
17 ring. If a sample above the screening level is found,
18 and then we attribute all the population in those
19 distance rings as though they were all subject to that
20 one, and so it's a very conservative approach.

21 MR. BERKNER: So just so I understand, so
22 that would mean if during the entire year of sampling,
23 if only on one day you saw an excursion that could be
24 enough to trigger --

25 MR. ARMSTRONG: As I understand it, though,

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1 we're going to be dealing with samples that represent
2 approximately a month, and so a day wouldn't trigger
3 the sample to be necessarily -- it won't be a one-day
4 sample. It will be a month sample.

5 MS. DOUGHERTY: There's several other
6 questions. Owen's next, and then I have Pamela and
7 Amy.

8 MS. DUFFY: And Bernd.

9 MS. DOUGHERTY: And Bernd. I'm sorry Bernd.

10 MR. HOFFMAN: First of all, just let me say
11 that I've been hired by the Berkeley laboratory to
12 advise them on scientific issues associated with the
13 National Tritium Labeling Facility, to advise on
14 issues on this sampling plan and function as a liaison
15 between the lab and the City of Berkeley, independent
16 consultant Bernd Franke, who is on the speaker phone.

17 In similar situations like this, I find that
18 what I've just heard in your presentation to be nearly
19 precedent setting. I don't know -- in my entire
20 professional experience I don't know of a case where
21 an operating licensed facility that is well within the
22 limits of the license has been ranked as eligible for
23 consideration under CERCLA. So that's my first
24 comment that I think this is the first time I've ever
25 heard of this ever happening in my career.

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1 So this is a very unique situation, and so
2 the -- this committee -- this process has been
3 triggered by basically the application of a very
4 unique decision making process that has been applied
5 to an operating facility that has basically taken just
6 a few spot samples and compared them to a limit that
7 is derived on the basis of a lifetime 70-year
8 exposure.

9 Now, these samples haven't been averaged over
10 a 70-year timeline period. Probably not even relevant
11 to that yet because those numbers have come up above
12 this screening target. This process that we're here
13 today to talk about has been triggered.

14 Now, the target itself for radiation, this is
15 a hundred times below anything that typically has been
16 considered to be of regulatory concern or warranting
17 regulatory action, and so even from the standpoint of
18 look up the regulation and environmental releases of
19 radioactivity, it's precedent setting. I don't know
20 of any other circumstance where these kinds of
21 assumptions have been applied to release of
22 environmental radioactivity.

23 MS. DOUGHERTY: Okay. Pamela's next and then
24 Bernd. Can you hear me?

25 MS. DUFFY: Amy's next.

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1 MS. DOUGHERTY: Amy and then Bernd.

2 MS. DUFFY: And then Pam.

3 MS. DOUGHERTY: No, Pam's next.

4 MS. SIHVOLA: Philip, would you be kind and
5 put your view graph back, and it is one, actually two
6 graphs before the one that you started with. This is
7 the one titled "What EPA Found," and I think it was
8 one of the last ones that you showed at the last
9 meeting. And I just have two questions about it.

10 The second paragraph states, "There are no
11 residences, schools, or day care centers within 200
12 feet of potentially contaminated area," and I would
13 consider this an error since there is the well-known
14 Lawrence Hall of Science. We consider it being in the
15 middle of the contaminated area since the air
16 emissions that exceeded EPA standard risk
17 concentration were measured inside the Lawrence Hall
18 of Science. The monitor in 1995 was located inside
19 the hall.

20 So would you please explain the statement
21 that you have on the graph, and would you specify more
22 specifically in legal terms what the 200 feet being --
23 day care or school being from a contaminated site, and
24 would you please change this to correctly reflect that
25 in fact Lawrence Hall of Science is within 200 feet

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1 from a potentially contaminated area as we all know?

2 MR. ARMSTRONG: I agree with you that it is
3 within 200 feet; however, it does not fit the --
4 excuse me -- hazard ranking system definition of being
5 a school.

6 MS. SIHVOLA: For the purposes of NESHAP, if
7 you look at LBNL's past site environmental reports,
8 the maximally exposed individual who is the full time
9 worker at Lawrence Hall of Science in the NESHAP
10 report, the site has always been specified as a
11 school, and it is a school since children do go there
12 to classes. They have organized classes there every
13 day.

14 MR. ARMSTRONG: So you're saying that the
15 same children attend school at the Lawrence Hall of
16 Science as students would attend any other school?

17 MS. SIHVOLA: Yes, it is considered a school,
18 and it was considered a school for the purposes of
19 NESHAPs reporting, you know, since the beginning of
20 the requirement.

21 MR. ARMSTRONG: So there are children who
22 attend there nine months out of the year so that they
23 would be exposed to the tritium concentrations in the
24 air on a -- or excuse me. We're talking about --
25 about the -- the soil, in the same basis as students

1 at any other school?

2 MS. SIHVOLA: Well, I think what you need to
3 do is to get more specific information from Lawrence
4 Hall of Science, how the schools are organized, how
5 the classes are organized because I think it is
6 functioning as a school all year round, and they have
7 various programs, different types of programs.

8 MS. DUFFY: Mike, is this your -- I saw
9 you --

10 MR. BANDROWSKI: I mean, the definition is
11 more under the HRS, but, I mean, I agree with Philip.
12 It's not a school in the sense that kids don't spend
13 the school year there. Definition of a school, as far
14 as the HRS, is a facility where kids spend nine months
15 of the year, five days a week, four or five hours a
16 day, and for the purposes of HRS scoring, that's not
17 the case at the Lawrence Hall of Science.

18 MR. ARMSTRONG: It would be, you know, the
19 same student attending class regularly at the school
20 rather than different group of students attending a
21 class there each day.

22 MS. DOUGHERTY: So there's, Pam, on your part
23 just to clarify, there's some question for you as to
24 the nature of the meaning of school and how that's
25 being interpreted. Is that what I understand?

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1 MS. SIHVOLA: Well, since the NESHAPs report
2 considers Lawrence Hall of Science as a school, I
3 don't know why it doesn't qualify as a school for the
4 purposes of the CERCLA evaluation.

5 MS. DUFFY: Brian, can you clarify that?

6 UNIDENTIFIED: Within the context of NESHAP,
7 the school might mean something different than it does
8 in the context of Superfund. I think under Superfund,
9 what they're looking at is kids spending a significant
10 amount of time at that location. My daughter went to
11 school at the Lawrence Hall of Science earlier this
12 year, but she only spent an hour or two in the class.

13 MR. WILLIAMS: Same kids on a long term
14 basis.

15 MS. DUFFY: But this is not to dismiss
16 people's concern about children. You're concerned
17 about it being that the wording so that it's covered,
18 but it's not. Amy next.

19 MS. KYLE: My question goes back to something
20 said about an hour ago, I think, but it's about the
21 NESHAP standard. Several people have said that the
22 NESHAP standards are public health standards. I
23 always thought that NESHAP standards were so-called
24 MACT standards, Maximum Achievable Control Technology
25 standards. They're really technology based standards

1 and as such not really health based standards at all.
2 So I was very confused by that, and I'm wondering if
3 someone could clarify.

4 MS. DOUGHERTY: Great. Someone take on Amy's
5 question.

6 MR. BANDROWSKI: I'm not sure I can do a good
7 job of explaining it, but it is -- the whole NESHAP
8 has evolved over time. The current NESHAP are MACT
9 standards, but there was -- I'd have to go back on the
10 history, but the early -- the NESHAP, which stands for
11 National Emission Standards for Hazardous Air
12 Pollutants, was originally a program to set health
13 based standards, and congress had asked EPA to pass a
14 number of those, one of which was for radionuclides,
15 and we were able to pass NESHAP standards for
16 radionuclides, asbestos, vinyl chloride, and I think
17 maybe one other hazardous air pollutant, benzene, and
18 those were all health based standards.

19 Then congress felt that EPA was not making
20 significant progress and achieving standards for the
21 other 180 or so HAPs, and so they went back under the
22 Clean Air Act revisions, basically started the MACT
23 program and said EPA, you will now stop doing health
24 based standards for hazardous air pollutants, and
25 instead based on technology, current existing

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1 technology, and that's when the MACT, Maximum
2 Achievable Control Technology, program was created.

3 But the radionuclide NESHAP was promulgated
4 prior to the change in the NESHAP program. So
5 radionuclides and asbestos and vinyl chloride and
6 benzene are all health based standards.

7 MR. WHIPPLE: I through some obscure bit of
8 history know something about this one. I believe it
9 was Section 112 of the Clean Air Act that under which
10 the NESHAPs were set and the specific congressional
11 mandate was to protect public health with an ample
12 margin of safety and for not carcinogens. It was
13 written for ample margin of safety.

14 MS. DOUGHERTY: We need to let Bernd speak
15 for a few minutes. Bernd, you've been so patient.
16 Would you like to speak to us for a few minutes?

17 MR. FRANKE: Yes. Can you hear me?

18 MS. DOUGHERTY: Yes, we can, thank you.

19 MR. FRANKE: Thank you for hooking me in over
20 my time zones. It's a little early over here. I'm
21 really appreciative of that, and I have a couple of
22 questions to Phil. Number one, Phil, it's -- as far
23 as my understanding goes, the ranking system is
24 scoring each site, and that magical number, which one
25 has to bear in mind, is 28.5. If a site exceeds that,

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1 then it would be eligible to be on the list. Is that
2 what you envision here, and if so, what if the data
3 would be taken someplace, which you have in front of
4 you now, are the driving factors for the scoring? In
5 other words, what is the most important pathway as it
6 stands now to bring it up to whether it goes up to
7 28.5 or not is another matter. So is it air? Is it
8 water? Is it any other exposure pathway?

9 And question number two, Phil, if you could
10 comment on the earlier comment, I don't know who made
11 that comment, which I found important, the concern is
12 that the plan is not running at full capacity at this
13 point at the time the sampling is going to be done.

14 Now, I understand that you have to make your
15 determination at the time the measurements are done.
16 So whatever you find at the time the measurements are
17 made is what you have to base your judgment on.
18 Suppose NTLF is coming up again and greater capacity
19 or would have larger emissions in years to come. What
20 is the process at EPA that would re-visit the ranking
21 of the NTLF site?

22 MR. ARMSTRONG: Thanks. Let me answer the
23 first question first. You asked about the air pathway
24 as far as its contribution to LBNL making it to the
25 28.5 cut-off.

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1 MR. FRANKE: And is that your cut-off? Is
2 that your criterion? Will you use that numerical
3 scheme, or will you then add another level of
4 evaluation after you've done the numerical evaluation
5 of the scoring?

6 MR. ARMSTRONG: Okay. As I was explaining
7 earlier, maybe not very well, there's two levels of
8 this decision, the first level being yes or no.
9 Decision be based on whether the site achieves the
10 28.5 cut-off score, and as you indicated, that's based
11 on the air migration pathway, that is, the exposure of
12 residents chiefly to levels of tritium in the air,
13 which either are significantly above background or are
14 above the screening concentration that we were -- we
15 discussed before, and so once you make that decision
16 of the site either meets or does not meet the 28.5
17 cut-off, then there's a second decision which has to
18 be made, which is whether it is appropriate to
19 actually go ahead and do a rule making process which
20 then results in the site being placed on the National
21 Priorities List.

22 MR. FRANKE: So, in other words, the other
23 pathways in your opinion at this time are not as
24 relevant?

25 MR. ARMSTRONG: Correct.

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1 MR. FRANKE: Okay.

2 MR. ARMSTRONG: And then on your second
3 question -- can you refresh my memory?

4 MR. FRANKE: Yeah. What would happen if
5 let's say they make measurements this year, and NTLF
6 is running at very low capacity, which brings the
7 score at very low levels. In years to come, things
8 will be different. Would then EPA ought not re-open
9 the process?

10 MR. ARMSTRONG: Okay. Here's I guess my
11 answer to that question, and this also goes to one of
12 the statements that was made earlier, that, you know,
13 the purpose of this task force is for the community to
14 give comments to EPA, and actually the way the process
15 works under CERCLA is that the Department of Energy is
16 the lead agency for conducting investigations at LBL
17 because of it being a federally owned and federally
18 run site.

19 Therefore, it is the DOE that's responsible
20 for conducting sampling, and EPA will be giving DOE
21 comments, which we have done on our sampling needs and
22 our requirements for the sampling, but the community
23 will also, and you also, Bernd, will be giving DOE
24 comments, that they will then consider on the sampling
25 plan, and since DOE is doing the sampling, and they're

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1 also running the facility, then my assumption would be
2 that DOE will conduct the sampling at the appropriate
3 time when that sample was also being indicative of
4 what's happening at the facility.

5 Also, Carl, or LBNL, you can correct me on
6 this, but I believe that air sampling is going to be
7 conducted over a six-month or year period and is
8 conducted on a continuous basis, and thus for this
9 particular sampling effort that the sampling will also
10 continue under DOE's own regulatory program
11 indefinitely, and in the event that there's a need for
12 additional Superfund evaluation in the future because
13 of new information, either about the tritium releases
14 or anything else, any other source of concern about
15 the facility, then the community can always come back
16 later and ask EPA to evaluate the facility again.

17 MS. DUFFY: Owen.

18 MR. HOFFMAN: I have a question for you, a
19 point in question follow-up to this. And that is is
20 there any other case where EPA has taken a facility
21 that are well within the national hazardous air
22 pollutant standards and yet has then turned around and
23 evaluated that operating facility in terms of the
24 hazard ranking system?

25 MR. ARMSTRONG: Okay. In answer to your

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1 question, I'm not a great expert on the history of the
2 Superfund program or why the program was enacted, but
3 my understanding is Superfund was enacted to address
4 specifically toxic waste sites that needed to be
5 cleaned up regardless of whether those facilities were
6 operating in compliance with the standards of their
7 time.

8 For example, there could have been a
9 facility. It might be owned by the same firm now, but
10 a hundred years ago the facility operating under the
11 standards of the time caused pollution, and EPA can
12 then -- Superfund can go to that facility and say, now
13 you have to clean it up even though you operated at
14 the time under the -- maybe you have a permit or you
15 didn't, but you were operating under whatever
16 standards were in effect at the time, but it caused a
17 problem, and now the problem needs to be cleaned up,
18 and we're saying that, you know, that facility rather
19 than the, you know, the public's taxes should be used
20 to clean up the facility.

21 So that's the theory in my understanding of
22 how Superfund works. So it's not that the facility
23 necessarily did something wrong but that their
24 operation contributed to a problem which is now
25 affecting the larger society, and someone has to pay

1 to clean that up, and the person who should be asked
2 to pay according to the law is the person who actually
3 caused the problem, again, even though perhaps at the
4 time they were operating legally. So does that
5 address your question?

6 MS. DUFFY: We have a bunch of --

7 MS. DOUGHERTY: One second, just -- Bernd, I
8 want to make sure that you're included in this. There
9 are about 10 hands up around the table. Just so you
10 know, there are a lot of people who have comments. Do
11 you mind waiting for them to comment before you say
12 something?

13 MR. FRANKE: No. My questions were answered.

14 MS. DOUGHERTY: Okay. Thank you.

15 MS. DUFFY: Let me also say one more thing.
16 One of the task force members asked if people could
17 introduce the group when they talk. Please say the
18 group you represent.

19 MS. DOUGHERTY: Start with Nabil and go
20 around the room. Nabil you're first.

21 MR. AL-HADITHY: Thank you. Nabil
22 Al-Hadithy, City of Berkeley. I think it was Mike who
23 earlier gave us the risk levels that were acceptable
24 for the screening level and for the NESHP standard,
25 10 millirem standard, and you mentioned three times

1 ten to minus four as a public health protective level
2 for the risk. Is that considered very liberal? Or
3 seems to me high. Is that normal in public health
4 protection standards?

5 MR. BANDROWSKI: Asking me, Nabil?

6 MR. AL-HADITHY: Yes, I am, or anyone else
7 who is familiar with public health standards.

8 MR. BANDROWSKI: Well, for the Superfund
9 program, generally tries to clean up sites to a risk
10 range to about ten to the minus four or ten to the
11 minus six. So that's at the high end of risk range
12 for a Superfund clean-up, but as far as a standard,
13 public health standard, at least on the radiation
14 side, that's pretty typical. I mean, the NESHAP
15 standard is 10 millirem. The standard that we have
16 for other types of radioactive emissions range from
17 anywhere from a hundred millirem to down to 25. 10
18 tends to be at the low end of the range for radiation
19 standards. The national and international standards
20 for exposure to the public tend to limit exposures to
21 individuals to about a hundred millirem a year, so
22 about 10 times higher than our particular standard.
23 Of course, for workers it's higher than that.

24 But -- so it kind of in the range of other
25 radiation standards may be at the low end of the

1 range, but as far as the broad scheme of chemicals,
2 it's probably at the higher end of risk rank.

3 MS. DOUGHERTY: We're going to go around the
4 -- Carl, you're next.

5 MR. SCHWAB: Point of clarification. It's my
6 understanding that the reason the HRS scoring
7 currently is considered to be above the, you know, the
8 limit or the standard is due primarily to the accurate
9 emissions at the tritium facilities, not any in past
10 emissions that showed up to some extent in some
11 amounts and ground water and other. Is that correct?

12 MR. ARMSTRONG: Yes. We're looking at the
13 current air emissions, and that's what's basically
14 driving this current process. That's what's making
15 this site eligible for Superfund is the current air
16 emissions.

17 MS. SIHVOLA: I'm Pamela Sihvola from the
18 Committee to Minimize Toxic Waste. Philip, would you
19 be kind and put the next slide, which is "What EPA
20 Found Continued" on the screen. The first paragraph
21 states levels of tritium in ground water, and the
22 creeks are below the drinking water standard. I have
23 passed a graph around from the site restoration
24 program, fourth quarter, fiscal year 1999, ground
25 water contamination, and the tritium ground water

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1 plume, according to the document, has exceeded EPA's
2 drinking water standard, and I think at least one
3 ground water monitoring well is measuring 26,000 pico
4 curies per liter. In addition, there are several
5 that, at least according to the most recent data,
6 continue to measure anywhere from 46,000 to 75,551
7 pico curies per liter.

8 My question is also I have attached with my
9 handout from the Code of Federal Regulation, which
10 specifies the hazard ranking system, the evaluations
11 to multiple pathways include also ground water
12 migration. Since the laboratory site has exceeded the
13 EPA's drinking water standard, I think it would be
14 imperative that also the ground water will be
15 considered as one of the important pathways in the
16 hazard ranking score.

17 So I'm asking why do you state that the
18 ground water has not exceeded the drinking water
19 standard? Because that is an error. It has exceeded.

20 MR. ARMSTRONG: When you say ground water,
21 are you referring to monitoring wells, then?

22 MS. SIHVOLA: Yes. This is an official
23 monitoring well at LBNL, which is managed by Iraj
24 Javandel's site restoration program.

25 MR. ARMSTRONG: Our study was conducted in

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1 '98, and I understood at that time that the ground
2 water levels were below the standard.

3 MS. SIHVOLA: So we will be providing you
4 with the information that shows that recent data shows
5 that ground water levels have exceeded EPA's drinking
6 water standard.

7 MR. ARMSTRONG: Okay. Now, that's
8 interesting information, but for the HRS purposes, we
9 wouldn't consider the levels in ground water because
10 there's no current use of that ground water for
11 drinking, and we only consider drinking for the ground
12 water pathway.

13 MS. SIHVOLA: There are several hundred,
14 actually. In fact, there have been thousands of
15 private wells in Berkeley, and there are still several
16 hundred individuals that are accessing ground water in
17 Berkeley. So I think it is very important that this
18 pathway is taken into consideration.

19 MR. ARMSTRONG: So do you know if any of
20 those ground water wells are being used for drinking
21 water?

22 MS. SIHVOLA: We know that they are used
23 for -- they are house -- in household use. So other
24 than going to survey each well locations, I assume
25 that if there is a need, if there is an emergency,

1 such as often happens here in the recent year with
2 earthquakes and fires, I think many people who have
3 access to ground water through their wells will be
4 accessing as an emergency drinking water source. You
5 cannot exclude that pathway in light of the fact that
6 we live next to an active earthquake fault and in a
7 high risk fire zone.

8 MR. ARMSTRONG: The information that EPA has
9 is that there are no wells in that area that draw from
10 the aquifer that's contaminated by the Berkeley lab
11 that are using that water for drinking.

12 MS. SIHVOLA: The hydrology -- the
13 geohydrology of the site is very complex, and I think
14 there is really no data to show that the migration of
15 this water would not occur, and, in fact, the City of
16 Berkeley further down, since the Strawberry Canyon is
17 a -- it is a water shed, has been a water shed for
18 hundreds of years, and it was very recently -- the
19 University of California came to Berkeley in the
20 1860s.

21 MR. ARMSTRONG: Maybe Nabil has something.

22 MS. DUFFY: I think Nabil has something, and
23 then we need to move on.

24 MR. ARMSTRONG: I think you had something to
25 -- light to shed on the question of drinking water,

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1 that is, ground water being used for drinking water in
2 the City of Berkeley.

3 MS. DUFFY: Rod had something.

4 MR. ARMSTRONG: Well, that was in answer to
5 what --

6 MR. AL-HADITHY: City of Berkeley. We do
7 have maybe one or two, maybe up to about a handful of
8 sites in Berkeley that use ground water. There's not
9 in the vicinity of the Lawrence Berkeley Lab, but I
10 think we have some data show that several houses, they
11 would use ground water. The Regional Water Board in
12 its recent amendments of the basin land has come up
13 with historical data, and there are hundreds of wells
14 in the shallow aquifer throughout the City of
15 Berkeley. Very few of them are in use.

16 Policy of City of Berkeley, however, is to
17 maintain the ground water, include the shallow ground
18 water for possible use as drinking water. We would
19 like to consider that possibility against the odds.
20 Basically, there's an awful lot of contamination
21 around there.

22 The question I think that may alleviate some
23 of these concerns, how far away is the plume from down
24 gradient households, and how long it might take to get
25 there. And in addition, the MCL's that were exceeded

1 was on very few occasions. I think Iraj may have
2 sufficient data to show where it is exceeded and how
3 far that extends.

4 MS. DUFFY: Okay. Rod and then move on.

5 MR. WARREN: U.C. Berkeley Office of
6 Radiation Safety. My question has sort of a follow-up
7 of Dr. Hoffman's statement. Given air as the primary
8 pathway and the fact that the NESHAP guidelines
9 haven't been exceeded, is there a chance of this
10 particular facility being put on the National
11 Priorities List? What is the probability in your
12 opinion?

13 MR. ARMSTRONG: I'm not actually an expert on
14 that part of the process. My involvement is in
15 ensuring that we, EPA, provides comments to LBL or to
16 DOE such that we get the data that we need to make the
17 decision about whether the site is eligible, and then
18 once that decision is made, then it goes on to our
19 management to make a decision about whether to put the
20 site on the NPL.

21 And there are a lot of different factors that
22 they consider, such as whether a clean-up is needed
23 and what other regulatory authorities there are that
24 could also -- or perhaps are already addressing this
25 situation, such as the NESHAPs program. So as far as

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1 what the probability is that the site will actually be
2 placed on the National Priorities List, that decision
3 will be made -- is not a question that I can really
4 answer.

5 MR. WARREN: Let me rephrase that. Is it
6 possible to be on the Superfund list if you meet
7 NESHAPs, yes or no?

8 MS. DOUGHERTY: Mike has an answer, I think.

9 MR. BANDROWSKI: I think Owen raised the same
10 question earlier. Are there any operating permitted
11 facilities that are on the Superfund list, and I think
12 the answer is yes, although not for the permitted
13 release. A good example is Lawrence Livermore Lab.
14 It's a Superfund site, and it's also operating under a
15 NESHAP permit. It's on the Superfund list not because
16 of air releases. It's because of contamination in the
17 soil.

18 Well, the same I think is the case to some
19 degree with Lawrence Berkeley Lab, not that it's going
20 to be on the Superfund site, but that under Superfund,
21 we wanted to potentially evaluate a bunch of different
22 pathway -- I mean we already know that the air pathway
23 is such that it would be eligible for listing. That's
24 already based on earlier data. The data aren't going
25 to be any less in the future.

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1 So, I mean, we already know potentially
2 scores, but as I said, the earlier work group, we had
3 a lot of concerns about what else might be out there,
4 you know, potential contamination. People raised
5 concerns about contamination of the eucalyptus grove
6 with leaves. A lot of people want different samples
7 to be conducted. So since we had to move forward and
8 completing this Superfund analysis in order to get
9 good data in order to finish the HRS scoring and find
10 out whether it's eligible, it seemed like a good idea
11 to try to do these other environmental evaluations.

12 Now, the same process, so much of the data
13 that needs to be collected is for Superfund purposes,
14 but also to meet some of the concerns expressed by the
15 community. Now, there's a big difference, as Phil
16 pointed out, between being eligible and then actually
17 being listed. The site -- right now we know that the
18 air releases are above the screening level. So the
19 facility is potentially eligible. Then a decision has
20 to be made on whether it makes any sense to list it.

21 The reason you have Superfund is to clean
22 something up. Is there something that needs to be
23 remediated and that will play a large role in the
24 decision ultimately whether to list it on the NPL and
25 do a Superfund clean-up? If the only concern is the

1 air pathway, obviously you're not going to clean up an
2 air pathway. Under NESHAP, Superfund typically does
3 not require that. I mean, there's no clean-up there.

4 But what comes out in the evaluation as far
5 as surface water, ground water, soil, I mean, that's
6 still to be determined. So far we haven't detected
7 any levels above the screening levels with the
8 exception of what Pamela just mentioned, but that
9 there is ground water samples and everything else in
10 the sampling plan, and we get the data, and that will
11 be factored in, and we'll determine whether there's a
12 clean-up that needs to be done.

13 MS. DOUGHERTY: Pamela has a comment. We're
14 going to close, and Amy, you have a comment, too.

15 MS. DUFFY: This might be relevant with their
16 talk there. Is it about sampling? Can we bring it up
17 with Iraj or Ron?

18 MS. SIHVOLA: This is a very quick
19 question, something that we received from Phil. This
20 is a Superfund chemical data matrix, and would you
21 please confirm my understanding that there is a
22 similar screening level for ground water as there is
23 for the air pathway? And my understanding is that 600
24 pico curies per liter of tritium is a screening level
25 for ground water as well as for surface water, that it

1 is the screening limit.

2 MR. ARMSTRONG: That's correct. However,
3 unless you have a population who are using the ground
4 water, then it doesn't make a difference which
5 screening level you use because there's no consequence
6 of that.

7 MS. SIHVOLA: But in the case of Berkeley
8 where we can document let's say a hundred households,
9 several hundred people, accessing ground water, so you
10 would be able to put into the hazard ranking equation
11 the number of households or individuals that are
12 actually accessing and using ground water. So that
13 pathway will be included.

14 MR. ARMSTRONG: What we would do, then, is we
15 would go and sample -- that is, DOE would go and
16 sample the water that those people are extracting from
17 their wells and then compare that to the screening
18 level.

19 MS. DOUGHERTY: Amy had a question, and then
20 I think we'd like Iraj and Ron to make a presentation.
21 Amy?

22 MS. KYLE: Yeah. This has to do with this
23 issue of the ongoing releases, and really what is the
24 statement to come out of this group if that's what the
25 concern is. So I have a comment and then a question,

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1 and my comment is that a cancer number of three in
2 10,000, it's not a de minimis number. I think the lab
3 should not portray that as completely health
4 protective number.

5 The State of California, even under Governor
6 Wilson, regulates air toxics down to one in 10,000.
7 So I think that's not really fair to say that number
8 like that is of no concern. But what this raises
9 seems to me is ongoing nature of these releases.
10 Superfund maybe only looks at cleaning things up at
11 one point in time. This seems like an ongoing issue.
12 I think you raised the very beginning.

13 So who gets that advice, you know, if that's
14 the issue that comes out of the committee? You're
15 saying, well, you're trying to finish your HRS
16 scoring. My guess is this will never score high
17 enough to get on NPL but, you know, who knows? But
18 still doesn't really take away concern about those
19 releases, and so if that's what people are saying,
20 I've heard it several times. Then who would we say
21 that to, and how is I guess my question.

22 MR. ARMSTRONG: Let me just say that in all
23 probability, the site will score, and then a decision
24 will be made whether it's appropriate to place it on
25 the National Priorities List, but as you're saying,

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1 there are other concerns in addition to the Superfund
2 evaluation or the outcome of the Superfund evaluation
3 such as the concerns of the City of Berkeley that
4 there might be drinking water wells that are impacted.
5 Some concerns that you're expressing that the NESHAP
6 standard might not be as protective as the state
7 standard, and those concerns -- my understanding the
8 DOE is including in the objectives for the sampling to
9 re-evaluate their previous risk assessment, and so
10 there should be additional information coming out of
11 this in addition to the Superfund result, which can
12 then be used for, you know, further discussions with
13 the DOE and with the Berkeley facility and among the
14 different stakeholders that are assembled here to come
15 to some sort of collusion on these issues.

16 MS. DOUGHERTY: I think just a comment for a
17 second to close things up. Thank you very much, Phil,
18 for your time. Move on to these guys, just to comment
19 to close up. I mean, there is a distinct theme here.
20 Several of you are mentioning that you're not just
21 concerned about the process we're immediately
22 addressing but the whole question of Superfund
23 priority listing, but there is a distinct theme for
24 members of the task force that, as I understand it,
25 that you are concerned about ongoing health questions

1 and ongoing NESHAP questions, and I think we ought to
2 note in our answers and our responses that several of
3 you have made mention of that, and so for you guys as
4 you go forward, you may wish to address how the lab is
5 going to look at creating health and supporting that.

6 Mike.

7 MR. BANDROWSKI: I think Amy may have
8 interpreted something I said, so just to clarify, the
9 three times ten to the minus four risk level
10 associated with the ten millirem, that is correct, but
11 that's not the level that the lab is currently
12 releasing. The current releases are about 50 times
13 less than that. Our NESHAP report is about .2
14 millirem. So the actual risk from the lab is not the
15 three times ten to the minus four, but 50 times less
16 than that at the largest exposure that we've been
17 seeing.

18 MS. DOUGHERTY: One question, Owen. I'd just
19 also like to add to that that the -- I have a hard
20 time saying NESHAP because I don't know -- I know
21 nobody understands what I mean when I say that, but I
22 don't know all the words that go into the acronym, but
23 the air pollution standard, the lab is held to a 10
24 millirem per year. That's dose in one year. Whereby
25 the risk you're creating is lifetime risk that would

1 assume exposure at the maximum rate for life. That
2 isn't taken into account. So your assessment of a
3 three times ten to the minus four associated with a
4 ten millirem per year really can't be made because
5 that's just a one-time, one-year exposure. It's not
6 meant to be an exposure that is 1500 year after year
7 after year after year over a person's lifetime.

8 MR. BANDROWSKI: Right. If you had 10
9 millirem a year for 70 years, you would have a risk of
10 approximately three times ten to the minus four, and
11 the exposure levels are approximately, as I said, 50
12 times less on overage on a yearly basis and so would
13 be correspondingly less.

14 MS. DOUGHERTY: Just move forward. We would
15 like to introduce Ron Power. Ron is going to give a
16 presentation, and Iraj may also have time to speak,
17 and I want to note that we have some concern, ongoing
18 health risk concerns, and I want to note the community
19 named concerns specifically regarding Lawrence Hall of
20 Science in the questions that were raised by a
21 community member earlier. So you can address some of
22 that, Ron. Thank you.

23 MR. POWER: I'll try my best. First of all,
24 I just wanted to mention that there is an extensive
25 ongoing program, and we're not planning on discussing

1 that to any great detail today or tonight, but it's
2 primarily driven by the Clean Air Act, okay, and
3 that's where the NESHAP regulation comes from and
4 involves very expensive or extensive stack exhaust air
5 monitoring for monitoring all the time emissions from
6 the NTLF. And this is -- this has been ongoing for
7 many, many years. It will go through while we're
8 doing the Superfund sample and continue that beyond
9 that.

10 In addition to that, in addition to that,
11 we're doing ambient air monitoring, monitor the rain
12 water, vegetation, surface water, ground water, soil
13 sediment, and sanitary sewer water. So we take just
14 for tritium alone six hundred samples every year.

15 Now what we're proposing to do under the EPA
16 recent request is to take samples for ambient air, and
17 we propose to take them continuously at two additional
18 occasions, and I'll show you that detail in a little
19 while.

20 UNIDENTIFIED: That's unreadable.

21 MR. POWER: Is it out of focus?

22 MR. SCHWAB: Just too small.

23 MS. BERG: Have to come back.

24 MR. POWER: We'll also talk about the soil,
25 sediment, surface water sample. Iraj is going to talk

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1 about those three media, and then we'll talk about
2 some vegetation sampling that we're proposing to do.
3 Now, this isn't required by the EPA Superfund people,
4 but we thought it important to address community
5 concerns. So we're throwing in some vegetation
6 sampling. In addition, some plant water sampling as
7 well.

8 Now, what I'd like to do next, just go over
9 very quickly what we've done to date so you have some
10 background, tells you where we're at, and then
11 following that, I'd like to have Iraj talk about soil,
12 sediment, surface water sampling, and then I will talk
13 about ambient air and vegetation.

14 MS. DUFFY: You have to straighten your
15 little thing out.

16 MR. POWER: Really? Is that okay?

17 MS. DUFFY: That's not so good.

18 MR. POWER: Oh. Is that okay?

19 MS. DUFFY: Yeah, that's okay. You'll pass.
20 B minus, but --

21 MR. POWER: This also started with an EPA
22 request out of their Superfund division that would
23 take additional samples for ambient air, soil,
24 sediment, and surface water. We decided to add in
25 vegetation to address community concerns. We prepared

1 a draft tritium sampling and analysis plan, and
2 everybody now has a copy of that dated May 1999.
3 We've received comments from EPA, and we've responded
4 to those comments. And all of you should have that
5 information in the inside sleeve in your plans. EPA
6 has also requested a data validation or verification
7 and validation plan, and those were sent out a couple
8 of weeks ago. So everybody should have a copy of
9 that. We've received from EPA a response to our
10 response to their comments, and I gave Terry a copy of
11 that. So do you have copies of that at your desk?
12 Where's Terry?

13 MS. POWELL: Which item?

14 MR. POWER: The EPA comments, there were five
15 comments, and our response to their compliance.

16 MS. POWELL: Yes, it's among the items
17 distributed.

18 MR. POWER: All right.

19 MS. DUFFY: People finding it? About four or
20 five pages down.

21 MR. POWER: All right. So that's pretty much
22 where we're at. We intentionally held off preparing a
23 revision to the sampling plan because we're waiting
24 for comments from you and from the City's consultant,
25 Bernd Franke. So that's where we're at. Next, Iraj

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1 is going to make a presentation about surface water,
2 soil, and sediment sampling, and then I'll come back
3 to talk about ambient air and vegetation.

4 MS. DUFFY: People find the pieces of paper
5 they need?

6 MS. DOUGHERTY: While we're exchanging mikes,
7 Bernd, are you still there?

8 MR. FRANKE: I also wanted to acknowledge
9 Anthony Greenhouse (phonetic). I hope he's there
10 tonight. Are you there, Anthony?

11 MR. GREENHOUSE: Yes, I am, Bernd. I'm here.

12 MR. FRANKE: Anthony's helping me in this
13 project, and he's from Oakland Health Services, and so
14 he should chip in if he has any questions, too.

15 MS. DUFFY: Do you want to sit up here?

16 MS. DOUGHERTY: We're going to move Anthony
17 so he has a seat and he can be heard.

18 MR. FRANKE: Okay.

19 MS. DOUGHERTY: Okay. Iraj.

20 MR. JAVANDEL: Okay. Those of you who have
21 the work plan in front of you might want to turn to
22 the attachment one, and that has the soil sediment and
23 surface water sampling. I want to start with the soil
24 sampling data, which we have already available. We
25 have more than a hundred soil samples available, which

1 we have collected maximum concentration of tritium,
2 which we have detected in these soil samples. I want
3 to stress that maximum concentrations, 177 pico curies
4 per gram.

5 Now, what's the meaning of that 177? The EPA
6 gives us the USEPA region nine PRG stands for --
7 Preliminary Remediation Goal for tritium in
8 residential soil is 11,000 pico curies per gram. So
9 that's our yard stick. 11,000. I want you to
10 memorize that number, versus 177, which we have.

11 That's what Mr. (Unintelligible) was telling
12 supposed to put on Superfund. They tell the site to
13 clean up to 11,000. Ours is 177 maximum. Now, that
14 is what the -- in general, but if you want to look at
15 the figure of this -- numbers are pretty small, but
16 you can see here the Building 75. NTLF is right in
17 this corner over there. This is the tritium stack.

18 All of these points which you have seen is
19 the places which we have collected soil samples. Now,
20 you can see that large numbers, black numbers, and you
21 can see the red numbers. The black numbers are
22 essentially the depths in feet, and the red numbers
23 are the concentration of the tritium, which we have
24 seen in pico curie per gram.

25 Remember that 11,000? Please don't forget

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1 that. So here we have Lawrence Hall of Science. This
2 is the -- to do that, we have to do some excavation
3 about three feet. Got the soil sample at surface and
4 got the soil sample around three feet, and these are
5 the concentration which we have less than one pico
6 curie per gram, and then we have some other places
7 over here and numbers which you can see.

8 For example, here is 9.1. So here we have,
9 for example, stack here, you have the depths of 2.3
10 feet, 9.1. Now, these black points which you see, so
11 over there, those are the sampling points which we did
12 extra, and that was for the hazardous waste handling
13 facility closure. Now, these are the concentrations
14 which we can see on that area.

15 Now, the numbers here, as you can see,
16 they're a little bit larger. The largest number,
17 which we have seen, is in this monitoring right over
18 there, which is at the depths of five feet, 177. But
19 at the depths of .7 feet, we have seven. Then the
20 next highest number is another .5 over there, 135 pico
21 curies per gram at depths of half a foot.

22 Now, these are immediately down gradient from
23 the tritium stack. In other words, when they go up,
24 then you have a rain fall, they drop down, and there
25 is a slope. They come down right over there. There

1 is a very shallow retaining wall, and that's where
2 they have concentrated right over there. So these are
3 the numbers which we have.

4 Again, as I said, the maximum concentration
5 is 177. Now, if you want to put it kind of color
6 code, it's not very clear in this, but this blue one,
7 the concentration is less than one pico curie per gram
8 all over places, including that place over there. And
9 then these are supposed to be green ones.
10 Unfortunately, these are not -- tritium not detected.

11 And the red one, as I mentioned, there are
12 two points right over there next to each other with
13 concentrations over 100 pico curies per gram with the
14 maximum 177. This is the data which we have. Now, I
15 want also to show you that if you put those numbers in
16 some sort of graph, these are what we have seen. In
17 other words, from the distance in the stack, 100 feet,
18 200, 3, 4, and 500, which we have the soil sample,
19 essentially the farther you go from the stack,
20 concentration drops. And these are all in pico curie
21 per gram.

22 This was prepared at a date before we had
23 those two high concentration numbers. So you don't
24 see that 177 here, but those probably should be
25 someplace right over there, go up over there. So it's

1 come down, expedientially down.

2 And now what we have proposed to do, we want
3 to do a two-tier approach. First, we want to collect
4 56 samples they presented in the figure that you have
5 in front of you. Then we will conduct additional
6 sample, if it's needed. So we will develop some sort
7 of criteria. Based on that, you will decide whether
8 we need to get any more samples or not.

9 Now, this figure is color coded. It's pretty
10 crowded. What we did with -- we say okay. Stack is
11 one sore spot. Now, if there is no wind whatsoever,
12 the emission can go all over radially. And then of
13 course the farther you go, because of the diversion
14 and getting larger and larger, the concentration is
15 dropped, will drop. So based on that scenario that
16 there is no wind, just we will consider the other one,
17 too.

18 Then we said okay. Let's come and consider
19 three concentric circles over there. One of them is
20 about 500 feet away. One of them is about 1,000 feet
21 away. The other one is about 2,000 feet away. Three
22 rings. Then we draw some radial line away, and we
23 ended up with the 12 different sectors.

24 So what we are proposing, say let's go to
25 each of these sectors, and as close as possible to the

1 middle of those sectors and collect one soil sample
2 from what depth, between .5 and one foot. EPA is
3 concerned about the top two feet. Okay. So that's --
4 that represents 36 soil samples.

5 Then in addition to that we say let's go very
6 close to the stack, and we will at a distance of 25
7 feet from that we will get four more samples over
8 there, that becomes 40 samples. Then we say okay.
9 Now we assume that there is no wind, but we know there
10 is wind most of the time. What are the main prominent
11 directions of the wind? One of them is that direction
12 toward the north, northwest. One of them is toward
13 the east, that direction. Okay.

14 We got those three sectors right over there.
15 We say let's go in that direction because then it
16 carries with the wind. You go farther away, we will
17 get three more samples right there at three more
18 samples here. Now, you can see some of these points
19 are pretty much off. For example, this location,
20 instead of being right at the center, it has gone over
21 there because the reason is it is not physically
22 accessible, full of trees.

23 I don't send over there. It's very steep
24 over there. So that's why we have done it like that.
25 However, if it is physically possible, if it's

1 feasible, we want to do it right at the middle. Now,
2 in addition to that, now, here we talk about 46 now.
3 We got 10 more samples, which will distribute in these
4 blue ones very close around the Lawrence Hall of
5 Science, between Lawrence Hall of Science and the
6 stack. So that becomes 56 samples.

7 This is what our proposal of the EPA. Now
8 EPA came back. They say that we would like to do some
9 more local sampling, say that we want to get up to
10 eight more samples between the Lawrence Hall of
11 Science and the stack. They specify particularly in
12 that particular area, which we had seen very high
13 concentration, they wanted to know why we have high
14 concentration. So these are the samples which goes --
15 we distributed -- put this -- two of them very close
16 to Lawrence Hall of Science. Other six were exact
17 emissions. So we have 56 plus eight, if my
18 calculation is correct, 64 samples. That's what we
19 have.

20 Now, here you can see a bunch of different
21 color. What are these colors now? Open circle, those
22 are the normal soil sampling locations. All of them.
23 The blue are the ones that duplicate soil sampling
24 location, both samples to be analyzed by Thermo
25 NuTech. Thermo Nutech is a laboratory which is a

1 California licensed lab.

2 So what do you want to do at the same
3 location? We want to get two samples, give it to them
4 blind. They don't know they are coming from the same
5 place. They give us two numbers, which are completely
6 -- to see how accurate they are. If one of them is
7 10,000, the other one 5, we know something is wrong.

8 Then there are these green ones is split soil
9 sample location. We get three-way split samples
10 between Thermo NuTech and USPEA lab determined and
11 another one is RAML certified lab, or any other lab
12 which you people believe that it is a good idea to do
13 it. So this would be those green ones are split. In
14 other words, we have the soil sample, mix it up, split
15 it three ways, give to three different labs and
16 compare the results. That is as far as the quality
17 assurance is involved.

18 Now, one other area which has been of
19 interest to the public has been the organically
20 involved tritium. So that's what we are doing here.
21 We are getting some organically involved tritium for
22 the soil, and that's sample analysis to include
23 determination of OBT, duplicate samples to be analyzed
24 by Thermo NuTech. In other words, the places we can
25 see three locations is blue, we get duplicate sample,

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1 give it to Thermo NuTech blind, again, to test it for
2 the OBT. Green one are, again, sample analysis to
3 include determination of OBT, and these will be done
4 between Thermo NuTech, USEPA and RAML or any other
5 lab. So this is about the OBT in the soil.

6 MR. WHIPPLE: Quick question, if I may. If
7 it's not a more long complicated answer, can you
8 describe how one measures organically bound tritium
9 and distinguishes from the tritium bound water?

10 MR. JAVANDEL: What do you mean?

11 MR. WHIPPLE: If you give me a bunch of
12 leaves and there's tritium in that, I don't know if
13 that's organically bound or if it's tritiated water
14 that's in the plant. How do you measure organically
15 bound tritium and distinguish that from tritium bound
16 water?

17 MR. JAVANDEL: That is not -- out of my area.
18 Do you want to answer that? I'm not a chemist, so I
19 don't know that.

20 MS. DUFFY: You can ask questions, it's fine.

21 MR. WILLIAMS: Is that dry weight or what?

22 MR. POWER: I'm not an expert here, either.
23 Yeah.

24 MS. DOUGHERTY: You need a microphone so
25 Bernd can hear you.

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1 MR. WHIPPLE: I'm not either.

2 MR. POWER: It has to do with the -- for
3 tissue or for free water tritium. The water is driven
4 out of the leaf and collected, and then sample the
5 amount of tritium in the water for organically bound
6 tritium. The technique calls for taking the solid
7 material and combusting it and from there determine
8 the amount of tritium in the organic material. So
9 it's a different analytical process.

10 MS. DOUGHERTY: Fran?

11 MS. PACKARD: My vision of this, being not a
12 chemist and not a scientist, organically bound means
13 it's kind of in the cell of the plant. It is in the
14 cell. It's attached. It's one of the protons or
15 whatever they are, and the other kind is on the cell
16 like dandruff.

17 MR. POWER: There's a lot of water in a leaf.

18 MS. DUFFY: I like that. Talk like me now.

19 MR. POWER: There's a lot of water in plant
20 material. So the tritiated water is within the water
21 itself. It's kind of dissolved water.

22 MS. PACKARD: In the water, in the cell. In
23 it.

24 MS. DUFFY: As opposed to --

25 MS. PACKARD: On it.

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1 MR. JAVANDEL: I want to explain that a
2 little bit. If you get a bunch of soil in your hand,
3 it has certain amount of moisture, certain amount of
4 water. That water, someone puts hydrogen in the
5 water, has tritium. Okay. That's what we want to
6 measure is under the water. Now, when you talk about
7 organically bound tritium, that is, for example, clay,
8 which is this, the soil, the formula for hydro alum
9 silicate, for example, that hydro means it does have
10 some hydrogen inside it, but if it has some sort of
11 organic material, that organic material, heavy -- some
12 cellulose, for example, which has some hydrogen, you
13 pointed out correctly is inside the structure,
14 anatomic structure, and some of those may change with
15 the tritium. So that's what we would get out of that.
16 So there are two different things.

17 MS. DOUGHERTY: Iraj, Pam, and Pamela.

18 MS. SIHVOLA: Yes. I wanted to take the
19 opportunity at this point to address a very important
20 issue since Iraj was describing the locations of the
21 depths of the proposed soil sampling. For the past
22 about three and a half years, we have been trying to
23 establish the level of activity at the Tritium
24 Labeling Facility, and recently I wrote a letter to
25 Mike Bandrowski at EPA asking him to request certain

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1 inventory related data from the NTLF so everybody
2 understands what the level of operations at the
3 facility have been during the last three and a half
4 years and what is it that we are actually going to be
5 sampling, and I wanted to pass on my letter to Mike
6 Bandrowski to all of the task force members, and I
7 hope that by the next task force meeting Ron Powell
8 will be kind and deliver this inventory related to
9 data to all of the task force members, and we can have
10 a discussion about that and how that relates to the
11 sampling at this time if, in fact, the operations have
12 been less than typical, and we feel that it could be
13 as much as 20 percent of what was typical in the
14 eighties and early nineties.

15 So I am passing this on to EPA and LBNL and
16 all the task force members hoping that we will have
17 these answers by the next meeting to discuss further
18 with you and in context with the sampling plan.

19 MS. DOUGHERTY: And Pam's next.

20 MS. EVANS: I would like to support Pamela's
21 remark, and also at some point this evening I hope
22 that we will talk a little bit about why OBT sampling
23 is important and not just what it is. I'm not sure if
24 someone else is going to be covering that organically
25 bound tritium.

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1 MR. POWER: I think the importance is that
2 tritium is in the water as well as bound to organic
3 material. So if you only look at it in one form,
4 you're missing the other. So it's just to give you a
5 sense of completeness. We're looking for both kinds
6 of tritium. Okay.

7 MR. MATTHEWS: Ron, correct me if I'm wrong,
8 but from a practical standpoint as it relates to dose
9 assessment for any human exposure, the tritium in the
10 water flushes through body biological half life would
11 be much less associated with the water than would the
12 biological half life associated with any bound tritium
13 that was organically bound, and from a practical
14 standpoint, you would probably have a higher dose over
15 the long run from organically bound tritium that was
16 in the body. Is that correct?

17 MR. POWER: The biological half life for
18 tritium in water I think is 12 days, 10 days,
19 organically bound tritium.

20 MR. WARREN: Depends on what it is.

21 MR. POWER: So longer if it's organically
22 bound. Has to get into the body as well.

23 MS. DOUGHERTY: I want to make a quick
24 comment. Nabil has a comment, and then we are running
25 a little short of time, so what we may end up needing

1 to do is continue to this conversation in our next
2 meeting. We do need to move to our next agenda item
3 so we can do some scheduling, and also there are a
4 couple of questions that have remained unanswered, I
5 think. We never really -- so, Iraj, if you could make
6 a comment -- Nabil has a comment. You can comment
7 back and close out. We need to move to the next
8 agenda item.

9 MR. AL-HADITHY: I'm just passing on the
10 question I received from a member of the public. They
11 are anxious to know if there are any standing water
12 areas in that vicinity, and I didn't recall any. The
13 only place that I knew that was close to the stack was
14 probably a little artificial pond behind Lawrence Hall
15 of Science, and his opinion was that standing like
16 swimming pools or ponds or whatever, what have you,
17 would be a concentrating body for tritium.

18 MR. JAVANDEL: Ron should know better than
19 me. I don't think that there is any standing water
20 nearby except for, for example, pools which we have in
21 the Strawberry Canyon.

22 MR. POWER: Actually, I took my daughter to
23 the Lawrence Hall of science earlier in the year, and
24 we did find a little pool. That's a little pond I
25 guess behind the Lawrence Hall of Science.

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1 MR. AL-HADITHY: Has that been sampled?

2 MR. POWER: Not to my knowledge.

3 MR. WARREN: Yes.

4 MR. AL-HADITHY: It has been sampled.

5 MR. WARREN: Yes, it's pretty minimal. It's
6 200 pico curies per liter about two years ago.

7 MS. SIHVOLA: How about sediment?

8 MR. WARREN: Just the water.

9 MS. DOUGHERTY: You guys try to use your
10 mikes so Bernd can hear us. I'm going to -- thank
11 you, Iraj and Ron. We need to poll you guys. Would
12 you like these gentlemen to be available next time to
13 continue this conversation? Is that where people are?
14 Yeah? No? To ask questions. It's okay. You can say
15 no.

16 MS. SIHVOLA: I think it would be very
17 useful to have both Ron and Iraj back next time, and
18 I'm also proposing that Henry Tran be here since he's
19 -- he has participated in the sampling protocol that
20 is made part of the sampling plan as attachment one,
21 and I'm also proposing that someone from Tetrtech
22 will be made available to answer these very crucial
23 questions regarding sample preparation and analytical
24 methods that Tetrtech uses, and then -- I'm sorry,
25 Thermo NuTech, that someone from Thermo NuTech will

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1 come and answer sample preparation and analyses
2 related question, and then finally that somebody from
3 Tetrattech, who actually was the company that developed
4 the sampling plan, would also be present to answer
5 questions that are related to the sampling plan
6 itself. So I will pass this proposal to everyone.

7 MS. DUFFY: Some people in the lab know about
8 techniques. He and Iraj might be more appropriate.
9 Are you filled up to here with this?

10 MS. DOUGHERTY: I have a comment. I'm not
11 sure who was -- I think you were first and then I
12 think Mike, please.

13 MR. GREENHOUSE: My primary comment is that
14 urine is one of most ideal samples. Environmental
15 samples are difficult to relate to, whereas if you
16 collect a urine sample, you have some idea of how much
17 tritium is in that person's body. I have some data
18 which suggests that organically bound tritium, if it's
19 collected from -- if a person's entire diet is from
20 that area, the contaminated area, they will
21 essentially double their tritium dose, but the point
22 that I wanted to make is that in our efforts to do
23 environmental sampling, we should not avoid the
24 likelihood of sampling people, volunteers, of course,
25 who would be willing to submit urine samples for that

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1 purpose.

2 MS. DOUGHERTY: Thank you, Tony. And Mike
3 has a comment. We need to move on to number four.

4 MR. BANDROWSKI: Maybe I'm anticipating the
5 next item on the agenda, but I guess in regard to
6 Pamela's proposal that a large number of people be at
7 the next meeting, in light of the fact that we've
8 barely been able to get through two presentations in a
9 meeting, I'd be inclined to try to figure out exactly
10 what we want to cover at the next meeting and make
11 sure the appropriate people are here and that we don't
12 have, you know, 10 or 12 people come, and we only can
13 expect to hear maybe two or three and have them all
14 just sit. Before the end of the evening to know
15 precisely what we're going to cover next week and have
16 the appropriate people here.

17 MS. DOUGHERTY: The next item on the agenda
18 is about the next meeting, but I want to take just a
19 moment to comment on the fact that most of you are
20 aware of an action that was taken at the Alameda
21 County Board of Education, and it has created a great
22 deal of concern amongst a number of people, and I know
23 that there was a comment earlier, as you have heard
24 from a member of the public, and because we are -- we
25 don't have a lot of people signed up to comment at the

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1 end of today, we'd like to make sure that this
2 member's comments are read into the record and are
3 given fair time. Many people are probably at that
4 board meeting right now.

5 I'd like to poll the task force to see if you
6 guys would like to hear this comment that was gathered
7 by this parents' group. Are you guys up for a few
8 minutes of this? It wasn't finished.

9 MS. FISHER: Put it in the record. I don't
10 want to hear it. We can read it.

11 MS. DOUGHERTY: Would you guys like to hear
12 from this member of the public who has spent time --

13 MS. SIHVOLA: Yes.

14 MS. PACKARD: I think the comments were good,
15 and yeah.

16 MS. DOUGHERTY: Let's go.

17 MR. BANDROWSKI: I was also just going to say
18 that EPA was at the meeting tonight and giving a
19 presentation on the split sampling that we're doing.
20 If people are interested in hearing about that, I
21 could also talk a little bit about the split sample
22 that we've programmed and been conducting for the last
23 two years and result of that since that's being --

24 MS. DUFFY: At the Hall of Science?

25 MR. BANDROWSKI: Yeah.

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1 MS. DOUGHERTY: Fran, Miriam, did you want to
2 hear from the member of -- Fran said yes. Anybody say
3 yes, no, whatever?

4 MR. WARREN: Just a comment on Pam's comment.
5 I think it wouldn't be a bad idea for Thermo NuTech to
6 submit their processing procedure in writing so we can
7 see if we have any questions. After that we can
8 deal --

9 MS. DOUGHERTY: I'm sorry you guys. Did you
10 guys --

11 MR. WHIPPLE: Just keep things randomly
12 descriptive. I've got a three-part comment. The
13 parts have no relation to each other. First, I was
14 the guy who said at the last meeting don't forget
15 about urine. So let me second the comment a minute
16 ago that that just short-cuts a huge number of
17 uncertainties. Any of us who have done any
18 environmental health risk assessments know there's a
19 lot of bodies buried in those models, and if you can
20 throw them out and measure what you're interested in
21 is the better system.

22 Second comment, as to what we'd like to hear
23 next time, I find I'm still struggling to come to
24 grips with what the various players in this process
25 would find useful to this task force, and particularly

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1 I think that the EPA is the group that's set the most
2 interested in our comments. I was trying
3 unsuccessfully to pin Phil down to give us an idea
4 here or what matters most in their determinations, and
5 he rightly answered it's a process. I'd like to ask
6 EPA again to do what they can to specify the kinds of
7 suggestions, comments, recommendations this group to
8 make to them that they would find particularly useful.

9 And, finally, I think if it's only a matter
10 of few minutes, the questions that were interrupted
11 earlier were quite interesting, and I think it's worth
12 a few minutes of our time.

13 MS. DOUGHERTY: Okay. You're outvoted.
14 Trish, would you continue? Could you hold it to five,
15 if you can, so we have a few minutes for the agenda?

16 MS. PRITIKIN: I was told to come to this
17 meeting, and I did 10 hours of preparation, talking to
18 parents to create this list, and my level of
19 frustration has been growing throughout the meeting,
20 not because your conversation hasn't been very
21 important, but you need to have some way for parents
22 and people like me to raise these issues and get
23 responses, whether it's a separate forum or another
24 working group, because this has been a very hard
25 experience and now I'm going to have to go back to the

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1 parents and say I'm glad you weren't there with me
2 tonight. You would have been real frustrated.

3 I'd like to get some responses from you, and
4 I really don't want to limit myself to three minutes.
5 It might take three and a half minutes. Okay. I hope
6 I don't sound bitter. It's just that I worked very
7 hard, and there's some big concerns here, and I know
8 you guys must be concerned about them, and I really
9 want to see your eye contact, and I really want to
10 hear what you think. This is the last half of the
11 list. This is about the accelerator.

12 Many of the parents I talked to are concerned
13 about the radiation levels that may have been produced
14 by the accelerator at the lab. It may have traveled
15 into neighborhoods in the forms of neutron
16 bombardment. What would the implications of these
17 levels be?

18 Next question. Are there safe exposure
19 levels associated with these radiation releases from
20 the accelerator? Why should we as parents accept
21 these levels when many of us want no exposures?

22 There's a lot of "no threshold, everything is
23 harmful" philosophy amongst the parents. Lot of
24 people do not believe in thresholds below which there
25 is no risk. You have to recognize that. Now, I have

1 16 remaining questions. They're not in order
2 necessarily.

3 One, where is the proof that visiting the
4 Lawrence Hall of Science or living near the National
5 Tritium Labeling Facility is safe? Where is the
6 proof?

7 FROM THE FLOOR: Here.

8 MS. PRITIKIN: I don't want to discuss your
9 response right now. I would like to hear it
10 afterwards, if I can.

11 Question 2, how long has this been going on,
12 and why weren't we told earlier?

13 Three, how long does it take for the tritium
14 to make people sick?

15 Four, why can't they just move the Tritium
16 Labeling Facility so it's not sending stuff out the
17 stack onto children?

18 Five, why can't the lab have meetings about
19 all of this with the schools?

20 I think that one's been answered. I think we
21 will have meetings with the schools, and I really
22 appreciate that.

23 Another person said, I grew up here. If I
24 was exposed to tritium, might I have passed something
25 on to my kids? These are all serious questions from

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1 educated parents. Realize that these are educated
2 parents concerned about the kids.

3 Why haven't any health surveys been done on
4 the neighborhoods where the tritium may have gone, and
5 where did it go exactly?

6 The next question, Isn't the fog a means by
7 which tritium can bind and become even more deadly to
8 humans? The National Tritium Labeling Facility is in
9 a fog belt.

10 Next question, Isn't there an earthquake
11 fault running right near the National Tritium Labeling
12 Facility? That would be the Hayward fault.

13 Could the tritium release be one of the
14 reasons that the San Francisco Bay Area has the
15 highest rate in the country of breast cancer?

16 I find that an interesting question. I don't
17 know what to say to all these. You guys have to help
18 me. I need someone to help to respond to these
19 questions with reason and logic. That's all they ask
20 for.

21 What else is released into the air or water
22 from the Tritium Labeling Facility? Is it just
23 tritium or tritium byproducts or what?

24 Okay. I have five more questions, and I'm
25 finished. Why hasn't the lab done surveys of people

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1 who lived in the tritium downwind regions over the
2 past years to see if they have any health problems
3 which may show patterns?

4 Have citizens, particularly parents, been
5 involved in advising the sampling plans? That's an
6 interesting question. If I brought the parents with
7 me here tonight, they would be confused. They
8 wouldn't know what you were doing or why, and they
9 would be very frustrated like I am.

10 Next, Most of us as parents outside Berkeley
11 but whose kids frequent Lawrence Hall of Science have
12 not been involved before in all of this. How can we
13 become involved?

14 Two more questions. Can you advertise
15 meetings ahead of time and in schools, including
16 private schools?

17 Last question. Why should we parents have to
18 accept regulatory exposure standards? What if we
19 don't want our children exposed at all? Now I would
20 like to have some kind of human reaction out of you
21 guys. Maybe it's asking too much, but I live in
22 Berkeley, and I'm a human, and I want to see if
23 anybody heard me.

24 MR. BERKNER: I'd like to respond. You've
25 had some e-mail correspondence with David McGraw. We

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1 were discussing that today with Owen, and we agreed
2 that we should provide a different forum, you know,
3 for community groups, parents' groups to be able to
4 discuss those, and so we will be working with you to
5 do that.

6 MS. DUFFY: And with Owen, I think that --

7 MS. DOUGHERTY: Did that answer your
8 question? And Mike has a comment.

9 MR. BANDROWSKI: Does that mean that you're
10 going to take a crack at answering the I don't know
11 how many questions there were in total, 35 questions?
12 I mean, it was posed to the entire work group, and I'm
13 sure we're not going to say to the work group try to
14 answer all 35, but I don't know what the process is.

15 Does someone take a crack at answering the
16 questions and we review them or comment, or we just
17 let you do it, or, I mean, some of us may have answers
18 to some of those questions. Some of us may not know
19 the answers to any of them. But I certainly wouldn't
20 want to sit down and as a work group try to answer all
21 35. So I'd be happy to let you do that.

22 Mr. BERKNER: You know, it's a long list of
23 questions, and some of them are extremely -- there is
24 no answer. Some of them are quite simple answers, but
25 I would hope with Owen's participation we could

1 distill this down to a series of concerns and narrow
2 down this very large list where some of the answers
3 are quite straightforward and some of them are going
4 to take much more. Some of them have no simple
5 answers, and we'll try to figure out how best we can
6 answer, but I think we need a forum to just formulate
7 -- help formulate opinions.

8 MS. DOUGHERTY: One second. Owen, Amy,
9 Pamela.

10 MR. HOFFMAN: And of course I was personally
11 honored and affected by your early presentation when
12 you said that in certain forum that I had done
13 something right and had earned your respect, and so
14 that made my day. This is a sort of a landmark
15 meeting to get that kind of compliment from you.

16 In terms of a human response to your
17 questions, any answer I give right now to the specific
18 questions that you've raised wouldn't do service to
19 the seriousness of those questions. I can give short
20 answers, but I think the people you represent, the
21 parents, they need to have the opportunity to sit down
22 in a serious forum where the questions are considered
23 in detail and that there is more than just a sound
24 bite answer, an off-the-cuff remark that's given.

25 So a separate forum to address those

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1 questions would be the most appropriate and
2 responsible accomplishment from the statements that
3 you have given to us, and, again, I thank you very
4 much because you have made my evening.

5 MS. DOUGHERTY: Nabil, Amy, then Pam. Bernd,
6 are you still with us?

7 MR. FRANKE: Yes, and I would very much like
8 to receive a list of those questions as well if maybe
9 somebody could give it to Anthony, and we would like
10 to incorporate those questions into our work with the
11 City.

12 MR. AL-HADITHY: I would concur with Bernd
13 here. Perhaps it is possible to put those questions
14 on the web with the answers at some point so that we
15 can all participate in reading the questions and
16 seeing the answers. Would that be agreeable?

17 One of those questions is a concern that I've
18 heard in city council meetings from a lot of people
19 within the City of Berkeley, that is, the proximity to
20 not only the Hayward fault, but also potential fire
21 hazards that resulted in a couple of fires in the
22 region. So I think Evelyn brought this up earlier.
23 So those questions would be of interest to a great
24 number of people.

25 MS. DOUGHERTY: Thank you Nabil. Amy?

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1 MS. KYLE: I was going to make a similar
2 suggestion that we get these questions in some
3 readable formats, not just in the transcript little
4 thing. But I wonder also if the parents are
5 stakeholders that should be part of this process as
6 well. I think, yes, the lab has every responsibility
7 to respond to these concerns, but, you know, we don't
8 want to have -- really have some independent role.
9 We're just here partly to talk to EPA, partly to talk
10 to DOE, but maybe the parents are stakeholders, too.

11 MS. DOUGHERTY: Thank you, Amy. Great
12 comment. Pamela?

13 MS. SIHVOLA: Hi. I have one answer to one
14 of the questions that Patricia brought up, and this is
15 regarding information from the California Department
16 of Health Services, Cancer Surveillance Section, which
17 found that prior to the 1991 Oakland-Berkeley hills
18 fire, the residents of Panoramic Hill, which is the
19 downwind area to the sort of second predominant wind
20 direction from the laboratory, the observed number of
21 breast cancers is higher than expected number. The
22 statistically significant level in the number of
23 breast cancers in this census tract was more than
24 double what was expected in the Bay Area where the
25 breast cancer rate is one of the highest in the world

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1 already.

2 MS. DOUGHERTY: Thank you, Pamela.

3 UNIDENTIFIED: And I think that if we want to
4 address that question, probably need to get the people
5 that did that study Ed Gallarta (phonetic), and if you
6 read in that study, they basically said they couldn't
7 pinpoint exactly what it was, but one of the major
8 factors appeared to be demographics in that in the Bay
9 Area because of the social economics of the Bay Area,
10 women tend to marry later and have children later,
11 which is one of the leading causes of breast cancer.

12 MS. DOUGHERTY: I'm sorry, Pamela. Got to
13 cut it. We're at 9:00 o'clock, couple minutes
14 afterwards. So I need to do a couple of things with
15 the task force members. The first is Bernd, I need to
16 thank you for your patience on behalf of the whole
17 task force. We say thank you for your patience in
18 hanging in with us, and we're look forward to talking
19 to you next month. So thank you very much.

20 MR. FRANKE: Thank you for giving me the
21 opportunity to attend, and I really gathered a lot, so
22 thank you for keeping me informed.

23 MS. DOUGHERTY: Thank you, Bernd, and then we
24 also need to look at a couple of dates, okay, for the
25 next -- so please get out our calendars. Most of you

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1 are aware that it was difficult, very difficult
2 process to find dates for us to have our next two
3 meetings, or this meeting. I'm sorry. We are trying
4 very hard to get two meetings in if we can before the
5 summer holiday rush. Okay. And our time is
6 relatively limited.

7 So if we can poll you on just a couple of
8 dates and have you put these in your minds at this
9 point in time, I think the preferred next date would
10 be either 24 or 25 May. And if any of you have an
11 absolute conflict, if you know now would be great.
12 Amy, you have one. Which day or both? You're gone.

13 MR. WILLIAMS: I'm going for about a week.

14 MS. DOUGHERTY: Okay. That week's out.
15 Let's go on. This is easy enough. 31 May or 1 June.
16 How are we doing there? Oh, my God. Do we have a
17 date? No? Pam Evans is not available.

18 MS. EVANS: Not 31.

19 MS. DOUGHERTY: How about 1 June? 1 June
20 going once, going twice.

21 MS. FISHER: I am going back east, but I'm
22 not sure of the dates yet, but could I have an
23 alternate be able to attend?

24 MS. DOUGHERTY: Who else had a problem with 1
25 June? Can we tentatively say 1 June? Oh, my God.

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1 This is great. Look at July real quick. The only
2 date I even have on my calendar right now, this is as
3 far out as we can go, 5 and 6 July. I realize that's
4 right after the holiday. Conflicts for Sue. Okay.
5 Let's be happy that we have our next meeting
6 scheduled, and we'll do our darnedest.

7 MS. DUFFY: Comment on --

8 MS. DOUGHERTY: Carroll has something.

9 MR. WILLIAMS: I have a question. In order
10 to kind of accelerate this process, is it possible if
11 instead of meeting -- to accelerate some of the
12 meetings so that we're doing it maybe every two weeks
13 instead of every month so we kind of get through this
14 plan and some kind of, well, some speed, if possible?

15 MS. DUFFY: Yeah, I like that idea.

16 MS. DOUGHERTY: We have one suggestion one
17 side of the room. We have Carroll suggested moving
18 along, and I saw a frown across Keith Matthews' face
19 at the thought of more meetings. What do you guys
20 think? One suggestion for accelerating.

21 MR. WARREN: Second that.

22 MS. DOUGHERTY: Rod, second. Who hates the
23 idea?

24 MS. DUFFY: Who hates it? Speak now.
25 Pamela?

1 MS. DOUGHERTY: Pamela hates the idea. Who
2 else hates it? Come on, Keith.

3 MR. MATTHEWS: I don't have any problem with
4 that, but I think what would be most appropriate,
5 though, is to come up with some type of target date to
6 have us make an agreement on the sampling process and
7 to get the sampling under way.

8 MS. DOUGHERTY: Okay.

9 MR. MATTHEWS: Okay. It's already three
10 months into the process that could -- that is
11 scheduled for one year, 16 months, and seems like
12 we're being very persnickety in details that I'm --.

13 MS. DAY: I really can't understand why it's
14 taking so long to look at a sampling plan. How many
15 different looks can we do? I agree. I think a
16 deadline would help a lot.

17 MR. BANDROWSKI: Kind of addressing that same
18 sentiment, and also what Chris asked earlier, what
19 does EPA want from this, sort of turned around, what
20 does the work group want from it? I mean, this is a
21 consultant hired by the City of Berkeley. I think one
22 of the questions to ask the work group is, you know,
23 what sort of information does the work group want to
24 be intimately familiar with and what does it just want
25 to ask the consultant or others to comment on?

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1 And EPA doesn't have any particular area
2 where we want comments on the sampling plan. We want
3 to feel that the community has an opportunity to
4 review it and request additional samples and
5 additional information that would best meet their
6 needs and concerns. So whether that's best to be done
7 by two-hour meetings once a month or whether it's best
8 for consultants or someone to look at it and provide
9 comments that the work group then reviews and either
10 agrees with or makes changes to, I think that we're
11 happy with any one of those processes. So what's the
12 best use of the task force I guess or the work group?

13 MS. SIHVOLA: I have a question. Mike, are
14 you the one who is planning to respond to the
15 community and the comments that come out of the task
16 force? Is it EPA that we are addressing these
17 comments?

18 MR. BANDROWSKI: No. Actually, I think, you
19 know, Philip addressed that point. The sampling plan
20 is DOE's, and EPA has provided DOE with a list of
21 samples and data points that we need in order to
22 complete the HRS scoring, and it's up to DOE to
23 provide that information to us. We've also suggested
24 to DOE that they should get community input, that
25 there was a work group and a lot of concerns raised,

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1 and so they should take into account the citizens'
2 concerns in developing that sampling plan, and EPA has
3 reviewed and commented on the sampling plan, but
4 ultimately DOE will take samples and provide them to
5 EPA to finish our HRS scoring process.

6 MS. SIHVOLA: So the process such that once
7 the recommendations come out of this task force and
8 other community groups, DOE will be officially
9 responding to those comments, and there will be
10 further discussion of what specifically will be
11 adopted in the final sampling plan? Maybe, Mike, you
12 can answer and maybe Carl can answer.

13 MR. BANDROWSKI: I guess it's more EPA would
14 be looking more to the work group. The people here at
15 some point will have to have some way of providing
16 input to DOE to the sampling plan. EPA will expect
17 DOE to respond to those comments, and it would be up
18 to the work group to decide if DOE responded to those
19 comments adequately. As I say, EPA will then get the
20 sample results from DOE, but we're looking to the work
21 group to review it and comment on it. We have already
22 done that.

23 MS. DOUGHERTY: All right. So at this point,
24 we are looking at some people wanting to move this
25 process along at a more rapid rate, and there does

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1 seem to be a general feeling you'd like to move it
2 right along.

3 MR. MATTHEWS: Can we start sampling, and
4 while the process is taking place, if we need -- if we
5 determine any additional sampling, so begin that
6 sampling, but start gathering data?

7 MS. DOUGHERTY: Okay. David wants to speak.

8 MR. MILLER: I just am not sure what the work
9 of this committee is. Are we going to go out as
10 individuals and take samples? To what degree are we
11 going to micromanage this whole process? I think we
12 have professionals here representing different
13 organizations.

14 We also -- the City of Berkeley has hired a
15 consultant, an independent consultant, and I think at
16 some point we simply have to go ahead and say that
17 we're satisfied with the people that we have working
18 for us and turn it over to them.

19 So at the rate we're going here, trying to
20 micromanage specifics, we're going to be here all
21 year, into next year. I don't see any end to this.

22 MR. MATTHEWS: It's seemed like at the last
23 meeting we decided that we -- the City of Berkeley's
24 expert was going to interface with the laboratory's
25 expert, and they were going to come up with some

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1 agreement on how to proceed.

2 MR. MILLER: That's right. That's what we
3 said, and I think at some point the committee here has
4 to sign off and say that we're satisfied. We've seen
5 the kind of thing that they are doing, and we're
6 satisfied, and sign off to the people who are going to
7 be doing the work. I think if we can, we continue to
8 go ahead and try and specify what sites, and this is
9 the -- and that organically bound tritium, and I
10 really think that we're going to be here forever, and
11 I can't say -- I can't see any purpose to it.

12 MS. DOUGHERTY: I do believe that just to
13 clarify for a second, my memory of the last meeting is
14 you all did ask to have EPA continue its presentation.
15 I do believe the committee did ask for that. So I
16 think that that was responsive to tonight. EPA's
17 presentation was responsive, in my memory, the last
18 presentation, as it has done about the nature and
19 content of current sampling plan as proposed.

20 So I do believe we're on schedule for when
21 you would ask for in trying to deliver that. What I'm
22 hearing right now is emphasis about how are we going
23 to get on with this process. Does anybody want to
24 make a suggestion? Do we want to meet in two weeks,
25 keep the date we've got? Do we want -- Mike, what do

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1 you think?

2 MR. BANDROWSKI: I was going to ask a
3 question. People have alluded to the consultant for
4 City of Berkeley. I'm curious. Is Bernd reviewing
5 the sampling plan, and at some point will he be able
6 to provide an analysis of it to the work group?

7 MR. FRANKE: Yes, my contract with the City
8 of Berkeley is to deliver a preliminary report, which
9 also addresses the sampling plan, by the end of June,
10 the schedule we're working on right now. So we will
11 provide comments to the sampling plan for that time.

12 MS. DOUGHERTY: By the end of June?

13 MR. FRANKE: Yes.

14 MS. DOUGHERTY: And then I think we ought to
15 let Ron respond to you guys about what they're looking
16 to give to DOE.

17 MR. MILLER: My understanding that one of the
18 reasons that City of Berkeley -- Bernd was to provide
19 to the community so that somebody other than Lawrence
20 Berkeley Lab was involved in going ahead and doing the
21 sampling process, and what I would like to say, this
22 has been a very good evening, the very detailed
23 sampling. I would like to see in the next meeting
24 that this committee by a vote sign off and say that we
25 are satisfied that there is a good sampling process.

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1 We will meet again in six months or something to be
2 presented with the results.

3 MS. DOUGHERTY: The plan originally -- just
4 to comment briefly -- was to have this series of
5 meetings to get the sampling on the show, on the road,
6 so to speak, and then there would be a quarterly
7 review process. That's my understanding of how this
8 originally was proposed, and you guys originally saw
9 in your invitations to participate in the process. So
10 I think there would be a quarterly --

11 MR. WILLIAMS: Seems to me to be both a
12 scientific and a political process, and it seems to me
13 also that once the scientific analyses have been done
14 and maybe we sign off on it as stakeholders, that's
15 part of the political process, but what disturbs me is
16 that the statement the EPA person made earlier on that
17 it goes to that -- the information goes to the senior
18 management, senior management, which to me sounds like
19 another political process, again, and so I'm persuaded
20 by Dr. Miller here by his comments, because we're, you
21 know, we're calling ourselves stakeholders, and I
22 guess we are, and in my case I report back to the
23 Panoramic Neighborhood Association, the data on breast
24 cancer.

25 So in a sense I'm representing them, and they

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1 give feedback to me about what's going on, but in the
2 final analyses, as I listen to the presentations that
3 the lab makes, makes sense to me based upon my limited
4 experience, but at the same time, I'm here not because
5 of my scientific expertise, but because of the fact
6 that I represent a neighborhood association for
7 stakeholders. So I'm here really as a kind of a
8 political person as well perhaps.

9 So the political process is closely
10 intertwined with the scientific one. I would like to
11 believe the scientific information, but on the other
12 hand, people are going to have different perceptions
13 of that data or of the conclusions, results of that
14 data, and then finally goes up to a higher body within
15 EPA, and they are going to make another political
16 decision.

17 MS. DOUGHERTY: Thanks. Pamela and then Ron.
18 If you would speak to Carl, please. I'm sorry, Carl.
19 I didn't see you.

20 MS. SIHVOLA: I wanted to refer to my
21 letter to Mike Bandrowski that I handed out to all the
22 task force members, and this goes to the very heart of
23 the issue. One of the documents I have requested from
24 LBL through Mike and also directly are all the
25 shipping documents pertaining to shipments of tritium

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1 into the NTLF since September 1, 1996 as well as
2 shipping documents pertaining to tritiated product,
3 shipments out of the NTLF since August of 1997.

4 According to the data we received at the last
5 -- at the Tritium Issues Work Group meeting, there
6 have been -- we have not received any documentation
7 that any tritium has arrived to the NTLF since 1996.
8 However, verbally we heard from Phil Williams that in
9 fall of '98, a tritium shipment came in, but we have
10 no evidence that any tritiated product shipments have
11 occurred since August of '97.

12 And I want to really ask all of you, this
13 goes to the very heart of the question, what if, in
14 fact, no tritium has gone up the stack in the amounts
15 that occurred in the eighties and early nineties, what
16 is the rationale of sampling soil at this time? And
17 we all know that the topsoil, very quickly the tritium
18 will go down from the topsoil into the sub-surfaces
19 and then down into the ground water, and as Iraj can
20 attest, most of the tritium is now in the 15 to 20
21 foot level below ground since no significant
22 quantities of tritium have been emitted.

23 So I feel that it is crucial that this task
24 force is provided with the verification with these
25 shipping documents so that we can have this discussion

1 and then understand, you know, what, you know, are the
2 conditions that we are actually sampling.

3 MS. DOUGHERTY: And Carl.

4 MR. SCHWAB: Well, I just wanted to comment
5 on some of the things mentioned earlier about DOE
6 getting the input from this group and working to
7 respond to it, and that's my understanding as well.

8 DOE will be the one receiving comments and
9 working with the lab and others to try to address
10 comments, and we wanted the group to be comfortable
11 with whatever sampling that we do do, that this is --
12 they feel is being done properly and something that's
13 defensible so people won't say well, it's just DOE or
14 the lab sampling, and we don't trust them. We want
15 people to say look, we look at what's happening. We
16 feel comfortable with the way it is. So we're seeing
17 -- or whatever is, and we feel the results are
18 defensible.

19 MS. DOUGHERTY: Okay.

20 MR. SCHWAB: But we also recognize there
21 might be issues that come out of this group that may
22 not make sense and put them in the initial sample
23 plan. I sense some desire to move forward with the
24 sampling. We may not be able to address all concerns
25 with the sampling plan if that happens that quickly.

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1 Some things may need to be postponed until some other
2 forum or some other mechanism.

3 MS. DOUGHERTY: Okay. We need -- Fran, if
4 you --

5 MS. PACKARD: I have a question, and it is
6 kind of a political question, actually, and I don't
7 know if it's political, and we're dancing around here
8 between tritium emissions and Superfund, right? And
9 that's it, and that's really what we -- so some people
10 want to say Superfund site may be based on past
11 things, and it was my initial impression when I first
12 got anything, and this meeting certainly confirmed it,
13 but I just wanted to ask in case, but that's the
14 issue.

15 MS. DUFFY: Yes. Yes.

16 MR. MILLER: I'm not sure about it. The issue
17 is concerning the community about the level of hazard
18 of potentially dangerous tritium emissions. That is
19 the main --

20 MS. PACKARD: That's an issue, but not the
21 main issue. My perception that that's not the big
22 issue. The big issue is the Superfund.

23 MR. MILLER: What's the --

24 MS. DOUGHERTY: Just one second. I think
25 that what Fran's raising is really important, and we

1 are at the end of our time, and I don't want to ignore
2 the comments or David's response. I think it's very
3 important to remember that there have been a number of
4 political issues raised tonight, including whose
5 responsibility this is, where this suggestion for
6 sampling plan goes to whether the responsibilities
7 with DOE, with the Superfund, yadda, yadda, yadda. We
8 have a whole list of the stuff we're doing.

9 We don't want to ignore any of that. All of
10 it is in place. To be fair, I think we have to name
11 it. All of it is in place, and it's all a question,
12 and it's been a lot of confusion, not been clarity,
13 not yet, and so if you're feeling confused, it's
14 probably because it's confusing. I mean that's what
15 it looks like to me, anyway.

16 So I think what we need to decide next --
17 just one second, Pamela -- we decide next is are we
18 meeting sooner rather than later? And is the next
19 meeting of this task force going to be to say yeah or
20 no. Do we go ahead and start sampling something or
21 not sampling something, and we need to speak to the
22 experts as to whether that's even a realistic
23 proposition. We don't know the answer to that.

24 So I'm going to let Ron Power address a
25 little bit whether or not our impatience is -- can be

1 satisfied. If we do want to shove everything forward
2 and maybe we'll know a little bit more, what is
3 possible, what's not.

4 MR. POWER: Well, we still have some open
5 issues with EPA, and we've kind of put those on hold.
6 So those will need to be addressed eventually. Now
7 we're waiting for a comment from this group as well as
8 Bernd Franke.

9 MS. DOUGHERTY: And Dr. Franke cannot comment
10 until end of June. He's told us his contract puts him
11 to the end of June, and he wants the time apparently.

12 MR. FRANKE: That's right.

13 MS. DOUGHERTY: Thank you.

14 MR. POWER: It would be very nice to have a
15 target deadline for all factors to be in so we can
16 start planning for this activity. Also people here
17 are spending a lot of their time here on the task
18 force, and I think some of them deserve a sense for
19 this, when this can come about.

20 MS. DOUGHERTY: End of June, and Pamela has
21 something, and Owen, so Bernd, end of June, right?

22 MR. FRANKE: That's right.

23 MS. DOUGHERTY: And you don't want us to take
24 away one day of your opportunity to think about this;
25 is that right?

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1 MR. FRANKE: Well, I would think of it this
2 way. Activities going on today at the NTLF site. So
3 it's an ongoing process. Why doesn't the task force
4 think about it that way that, you know, there are
5 issues which one can sign off monitoring activities
6 which could take place right away and others which
7 could be later on if there is additional information,
8 that's the way I feel, which would require additional
9 sampling or maybe sampling that could be added on at a
10 later on, so I feel certainly that the need to have a
11 deadline where comments will be received can make up
12 their mind to go out into the field.

13 MS. DOUGHERTY: Thank you, Bernd.

14 MR. FRANKE: I'd rather have the time to of
15 course finish our analysis. We have referred to a lot
16 of the information from the lab, some of which I'm
17 still receiving at this point, so I would please hope
18 that you understand my position that we would like to
19 take our time to carefully go through the record.

20 MS. DOUGHERTY: Thank you, Bernd, and Owen
21 has a comment as well as the lab's technical expert.

22 MR. HOFFMAN: I, too, am very confused
23 because of the complexity with which decisions have
24 been made to make it necessary to perform the samples.
25 Seems to me that there are perhaps three issues. One,

1 the first issue is the operation of the National
2 Tritium Labeling Facility, and the question is being
3 clearly in compliance with regulatory statutes. The
4 next question is Superfund site, and Superfund site
5 designation, is there evidence today that the ground
6 water, the soils, vegetation have been contaminated
7 through the historical operation of numerous
8 facilities at the Berkeley lab to warrant the listing
9 of the Berkeley lab site as a Superfund site, and what
10 kind of extra sampling is necessary to draw that
11 conclusion.

12 The third issue is future operation of the
13 National Tritium Labeling Facilities and how do we
14 have assurances that the future operation won't be
15 equal to or even exceed the 1993/94 emissions where
16 they were several hundred times higher than what they
17 are currently. And if they were to be that high, what
18 are the consequences, and what would be the potential
19 consequences of earthquakes and fires giving rise to
20 accidental releases, and can the sampling plan address
21 those issues at all?

22 MS. DOUGHERTY: Okay. So Pamela, one second,
23 I just need to check in with the rest of you guys.
24 It's late, and people want to go, and you're patient,
25 and I can see it and feel it. So Iraj, please.

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1 MR. JAVANDEL: One thing Owen mentioned, he
2 said several hundred times more than now. I think
3 that's not correct. You didn't want to say that, did
4 you?

5 MR. HOFFMAN: Several hundred times at least
6 in order of magnitude before where it is now.

7 MR. MILLER: That's 10 times.

8 MR. HOFFMAN: Ten times.

9 MR. JAVANDEL: Several hundred for the sake
10 of record here, you don't want to --

11 MR. HOFFMAN: It's late in the evening. It's
12 easy to round things up, but it's been much higher
13 than it is over the last year.

14 MS. DOUGHERTY: Again, Pam has one comment.

15 MS. SIHVOLA: I'll make it very short, and
16 I wanted to respectfully ask that my letter to Mike
17 Bandrowski be appended to the transcript of this
18 evening's proceedings, and I am also asking Owen
19 Hoffman to respond to my concerns and request the
20 tritium inventory data, because unless we know exactly
21 what has been the level of operations during the last
22 four years, I don't think this sampling plan is going
23 to have any credibility in the community. Thank you.

24 MS. DOUGHERTY: Pamela, I can assure that
25 your letter will be appended. Anything offered will

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1 be appended. Give it to the court reporter. Thank
2 you. All right, you guys. We've got a date. We've
3 got a date, and we need to talk -- we'll speak in the
4 next few weeks about putting the agenda together,
5 exactly what you guys want to do. Thank you very
6 much.

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1 CERTIFICATE

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3 I, the undersigned, a Certified Shorthand
4 Reporter for the State of California, hereby certify
5 that the foregoing proceedings were reported by me, a
6 disinterested person, and were thereafter transcribed
7 into typewriting, under my direction, to the best of
8 my ability to hear and understand speakers; that the
9 foregoing is a record of said proceedings.

10 Executed this 8th day of May, 2000.

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LAURA AXELSEN, CSR NO. 6173

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PATRICIA CALLAHAN AND ASSOCIATES

Tpowell@lbl.gov (Terry Powell) submitted the following comments to the Environmental Sampling Task Force:

For the 4/25/2000 meeting transcript, please note the following clarifications:

- 1) page 5, and following throughout Ms Mollie "Berg" is actually Ms. Mollie Field
- 2) page 19, line 24, "Grant" is actually Bernd, referring to Mr. Bernd Franke who was available via telephone link from Germany.
- 3) page 28, line 3 and following throughout, Mr. "Power" is actually Mr. Ron Pauer. Head of the Environmental Protection at Berkeley Lab.